FortiClient EMS for Chromebooks - Administration Guide

VERSION 1.2.0

FORTINET DOCUMENT LIBRARY

http://docs.fortinet.com

FORTINET VIDEO GUIDE

http://video.fortinet.com

FORTINET BLOG

https://blog.fortinet.com

CUSTOMER SERVICE & SUPPORT

https://support.fortinet.com

FORTIGATE COOKBOOK

http://cookbook.fortinet.com

FORTINET TRAINING SERVICES

http://www.fortinet.com/training

FORTIGUARD CENTER

http://www.fortiguard.com

END USER LICENSE AGREEMENT

http://www.fortinet.com/doc/legal/EULA.pdf

FEEDBACK

Email: techdocs@fortinet.com

July 25, 2017

FortiClient EMS for Chromebooks 1.2.0 Administration Guide

04-120-436863-20170725

TABLE OF CONTENTS

Change Log

Date	Change Description
2017-06-15	Initial release
2017-06-22	New topic added for upgrading from earlier version of FortiClient EMS for Chromebooks.
2017-07-25	Upgrading Microsoft SQL Server Express to Microsoft SQL Server Standard or Enterprise on page 21 and Testing the SQL server upgrade on page 23 added.

Introduction

FortiClient Enterprise Management Server for Chromebooks (FortiClient EMS for Chromebooks) is a security management solution that works with the FortiClient Web Filter extension to provide web filtering for Google Chromebook users.

FortiClient EMS for Chromebooks is designed to meet the needs of small to large enterprises that provide web filtering for Google Chromebook users. Some benefits of deploying FortiClient EMS for Chromebooks include:

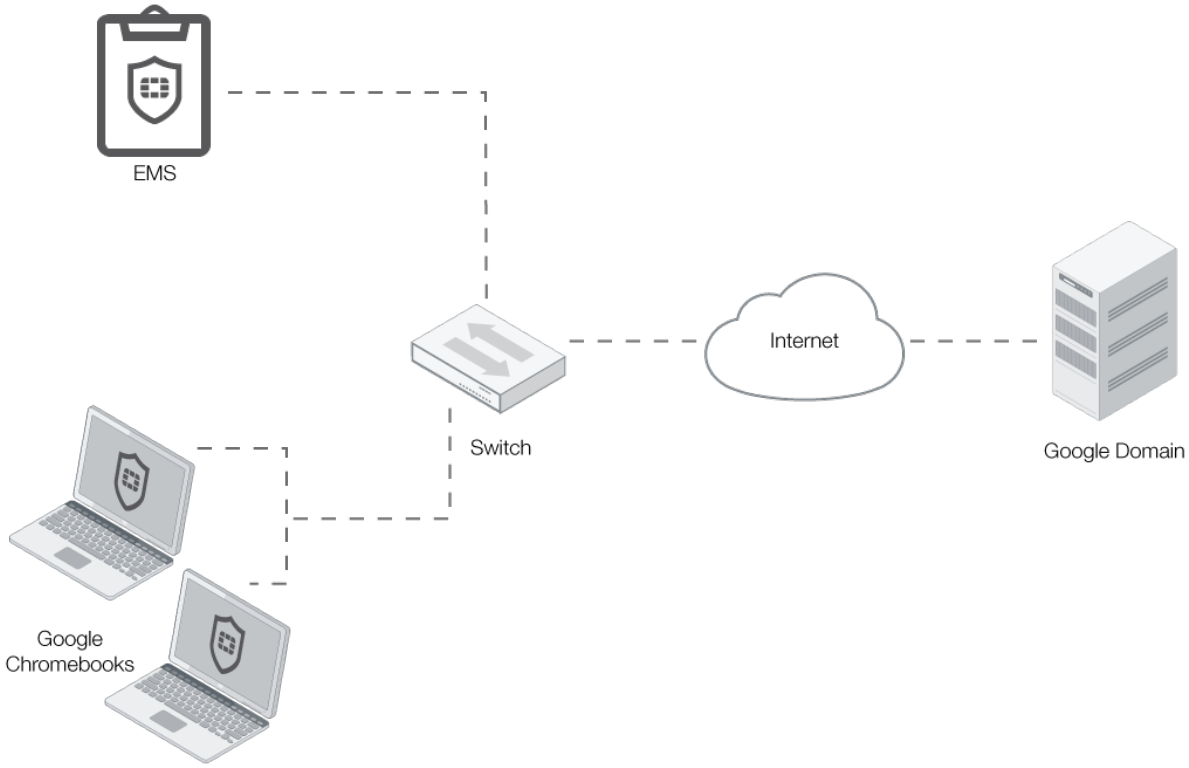
- Defining web filtering rules in a profile and remotely deploying the profile to the FortiClient Web Filter extension on Google Chromebook endpoints
- Updating profiles for users of Google Chromebook regardless of access location
- Monitoring Google Chromebook endpoints

Components of FortiClient EMS for Chromebooks

FortiClient EMS for Chromebooks provides the infrastructure to install and manage the FortiClient Web Filter extension on Google Chromebook endpoints. FortiClient protects endpoint users by working with FortiClient EMS for Chromebooks to filter the web content that endpoint users can view on Google Chromebook.

The following table lists the components of FortiClient EMS for Chromebooks.

Component	Description
FortiClient EMS for Chromebooks	Manages web filtering on Google Chromebook endpoints with the FortiClient Web Filter extension installed that connect to your Google domain. It includes the following software: • The console software that manages security profiles and Chromebook endpoints. • The server software provides secure communication to and from the Chromebook endpoints and the Google Admin console.
Database	Stores security profiles, events, and user information retrieved from the Google Admin console. The SQL database is installed as part of the FortiClient EMS for Chromebooks installation.
FortiClient Web Filter extension	Communicates with FortiClient EMS for Chromebooks and enforces web filtering on Google Chromebook endpoints.



FortiClient EMS for Chromebooks allows you to:

- Establish and enforce security profiles
- Manage security profiles from an integrated management console
- Obtain a consolidated view of multiple security profiles across all endpoints in your Google domain
- Monitor endpoints' web browsing activity

FortiClient EMS for Chromebooks and Fortinet Endpoint Security Management

FortiClient EMS for Chromebooks is part of the Fortinet Endpoint Security Management suite, which ensures comprehensive policy administration and enforcement for an enterprise network.

Documentation

You can access the FortiClient EMS for Chromebooks documentation from the following link: docs.fortinet.com

The FortiClient EMS for Chromebooks documentation set includes the following documents:

- *FortiClient EMS for Chromebooks 1.2.0 Release Notes*
  This document describes new features and enhancements in FortiClient EMS for Chromebooks for the release and lists any known issues and limitations. This document also defines supported platforms and the required minimum system requirements.

- *FortiClient EMS for Chromebooks 1.2.0 QuickStart Guide*
  This document describes how to install and begin working with the FortiClient EMS for Chromebooks system. It provides instructions on installation, deployment, and also includes a high-level task flow for using the FortiClient EMS for Chromebooks system.
- *FortiClient EMS for Chromebooks 1.2.0 Administration Guide*

What's New

The following is a list of new features and enhancements in FortiClient EMS for Chromebooks 1.2.

FortiClient EMS for Chromebooks 1.2.0

Pre-login banner

The pre-login banner feature can be used to display a message on the login page for FortiClient EMS for Chromebooks before the user logs in. Users must accept the banner message before they can log in. See Configuring the pre-login banner on page 61.

Separate license for EMS Chromebook support

Users can purchase a license that is applicable for both FortiClient EMS and FortiClient EMS for Chromebooks. Alternatively, they can also purchase licenses only applicable for FortiClient EMS for Chromebooks for a lower price.

Get Started

This section provides an overview of how to perform the following tasks after you install and license FortiClient EMS for Chromebooks.

This section also includes a description of how FortiClient EMS for Chromebooks and FortiClient work with Google Chromebooks after the setup is complete.

Configuring FortiClient EMS for Chromebooks

To configure FortiClient EMS for Chromebooks:

1. Start and log into FortiClient EMS for Chromebooks. See Starting FortiClient EMS for Chromebooks and logging in on page 19.
2. Add SSL certificates. See Adding SSL certificates to FortiClient EMS for Chromebooks on page 62.
3. Configure FortiClient EMS for Chromebooks settings. See Settings on page 59.
4. Configure user accounts and permissions. See User Management on page 55.

Configuring the Google Admin console

Following is an overview of how to configure the Google Admin console to prepare for adding the Google domain to FortiClient EMS for Chromebooks. The document assumes that you have created the Google domain.

To configure the Google Admin console:

1. Add the FortiClient Web Filter extension. See Adding the FortiClient Web Filter extension on page 25.
2. Configure the FortiClient Web Filter extension. See Configuring the FortiClient Web Filter extension on page 26.
3. Add root certificates. See Adding root certificates on page 27.
4. Configure unique service account credentials. See Configuring unique service account credentials on page 35.
5. Disallow incognito mode. See Disallowing incognito mode on page 30.

Deploying profiles to Chromebooks

Following is an overview of how to add a Google domain, configure profiles, and push profiles to Google Chromebooks.

After you add the extension in the Google Admin console, the extension is downloaded to the Google Chromebook when the Chromebook user logs onto the Chromebook.

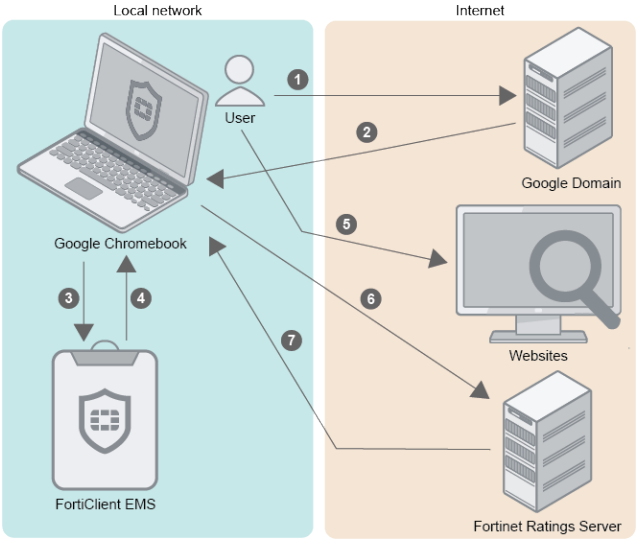
To deploy profiles to Chromebooks:

1. Add the Google domain. See Adding Google domains on page 47.
2. Define web filtering options in one or more profiles. See Configuring profiles on page 48.
   You can enable Safe Search in profiles.
3. Assign profiles to domains to deploy profiles to the FortiClient Web Filter extension on Chromebook endpoints. See Assigning profiles to Google Chromebooks on page 50.
4. Verify the FortiClient Web Filter extension. See Verifying the FortiClient Web Filter extension on page 32.
5. View Google domains and Google users. See Viewing domains on page 44.

How FortiClient EMS for Chromebooks and FortiClient work with Chromebooks

After you install and configure FortiClient EMS for Chromebooks, the Google Admin console, and the FortiClient Web Filter extension, the products work together to provide web filtering security for Google Chromebook users that are logged into the Google domain. Following is a summary of how the products work together after the setup is complete:

1. A user logs into the Google Chromebook.
2. The Google Chromebook downloads the FortiClient Web Filter extension.
3. FortiClient connects to FortiClient EMS for Chromebooks.
4. FortiClient downloads a profile to the Google Chromebook. The profile contains web filtering settings from FortiClient EMS for Chromebooks.
5. The user browses the Internet on the Google Chromebook.
6. FortiClient sends the URL query to the Fortinet Ratings Server.
7. The Fortinet Ratings Server returns the category result to FortiClient. FortiClient compares the category results with the profile to determine whether to allow the Google Chromebook user to access the URL.



Installation Preparation

This section helps you prepare to install FortiClient EMS for Chromebooks. Before you install FortiClient EMS for Chromebooks, you should be aware of the following information:

Before installing FortiClient EMS for Chromebooks, it is recommended that you read the *FortiClient EMS for Chromebooks Release Notes* available on docs.fortinet.com to become familiar with relevant software components and other important information about the product.

Licenses

This section describes the licensing options available for FortiClient EMS for Chromebooks. It provides information about the number of supported Google Chromebooks for each type of license to help you determine which license best suits your needs.

FortiClient EMS for Chromebooks

FortiClient EMS for Chromebooks supports the following types of licenses:

- Free trial license
- Purchased license

Free trial license

When you install FortiClient EMS for Chromebooks, the free trial license is enabled by default. The free trial license supports ten Google Chromebook users. FortiClient EMS for Chromebooks consumes one license count for each managed Google Chromebook.

Purchased license

Each purchased license allows management of one Google Chromebook user. You must purchase a minimum of 100 Google Chromebook users, and you have an option to have this EMS license for a maximum three year term. You can specify the number of Google Chromebook users and the duration of the term at the time of purchase.

An email will be sent when you are running out of licenses. Additionally, a log entry will be entered when a client is refused connection due to unavailable licenses.

Component applications

Common services or applications do not require a license.

During the installation of common services required for FortiClient EMS for Chromebooks, you are not asked for license information.

Required services and ports

You must ensure that required ports and services are enabled for use by FortiClient EMS for Chromebooks and its associated applications on your server. The required ports and services enable FortiClient EMS for Chromebooks to communicate with endpoints and servers running associated applications.

Communication	Service	Protocol	Port
Apache	HTTPS	TCP	443
SQL server			
FortiClient on Chrome OS • Connection to Profile Server.			8443 (default) You can customize this port.

Management capacity

FortiClient EMS for Chromebooks is intended for use by enterprises. It has the capacity to manage a large number of endpoints. The following are suggested host system hardware configurations for FortiClient EMS for Chromebooks. The suggested configurations depend on the number of endpoints being managed by FortiClient EMS for Chromebooks.

You will need at least **200GB** of free disk space available.

Max number of managed endpoints	Number of virtual CPUs	Memory (RAM) (in GB)	Suggested keep alive interval
10000	2	8	default
20000	4	8	default
30000	4	8	120 seconds

Max number of managed endpoints	Number of virtual CPUs	Memory (RAM) (in GB)	Suggested keep alive interval
40000	4	8	120 seconds
50000	4	8	120 seconds
Suggested minimum system hardware for FortiClient EMS for Chromebooks:			
75000	8	16	120 seconds

For the purpose of this table, an Intel i5 processor with two cores and two threads per core will be considered to have four virtual CPUs. An Intel i3 processor with two cores and one thread per core has two virtual CPUs.

Server readiness checklist for installation

Use the following checklist to prepare your server for installation.

Checklist	Readiness Factor
	Temporarily disable security applications. You must temporarily disable any antivirus software on the target server before you install FortiClient EMS for Chromebooks. Installation might be slow or disrupted while these programs are active. Note that a server might be vulnerable to attack when you uninstall or disable security applications.
	It is recommended to sync the time to the Google server time.
	Confirm that required services and ports are enabled and available for use by FortiClient EMS for Chromebooks.
	Ensure that no conflict exists with port 443 for the Apache service to function properly.
	Ensure that no conflict exists with port 8013 for the EMS service to function properly.

Google for Work account

You will need to sign up for your own Google for Work account before you can use the Google service and manage your Chromebook users.

The Google for Work account is different from the free consumer account. The Google for Work account is a paid account that gives you access to a range of Google tools, services and technology.

You can sign up for a Google for Work account here: https://www.google.com/a/signup/#0

In the sign up process, you will need to use your email address to verify your Google domain. This is also to prove that you have ownership of the domain.

SSL certificates

FortiClient EMS for Chromebooks requires an SSL certificate signed by a Certificate Authority (CA) in pfx format. Use your CA to generate a certificate file in pfx format, and remember the configured password. For example, the certificate filename is *server.pfx* with password 111111.

The server where FortiClient EMS for Chromebooks is installed should have an FQDN (fully qualified domain name), such as ems.forticlient.com, and you must specify the FQDN in your SSL certificate.

If you're using a public SSL certificate, the FQDN can be included in either *Common Name* or *Subject Alternative Name*. You must add the SSL certificate to FortiClient EMS for Chromebooks. See Adding SSL certificates to FortiClient EMS for Chromebooks on page 62. You do not need to add the root certificate to the Google Admin console.

If you're using a self-signed certificate (non-public SSL certificate), the *Subject Alternative Name* of your certificate must include `DNS:<FQDN>`, for example, `DNS:ems.forticlient.com`. You must add the SSL certificate to FortiClient EMS for Chromebooks, and you must add the root certificate to the Google Admin console to allow the extension to trust FortiClient EMS for Chromebooks. See Adding root certificates on page 27.

Upgrading from an earlier version of FortiClient EMS for Chromebooks

FortiClient EMS for Chromebooks 1.2.0 supports upgrading from EMS 1.0.3 and later 1.0 versions. To ensure a successful upgrade, it is recommended you perform the upgrade on a staging server before upgrading the production server. Follow the procedure below.

1. (Optional) Back up the database from the EMS 1.0.x production server.
2. Install EMS 1.0.x on a staging server.
3. (Optional) Import the EMS 1.0.x database from the production server.
4. Register FortiClient endpoints to the staging server.
5. Upgrade the staging server to EMS 1.2.0.
6. Monitor the staging server for two days.
7. Upgrade the production server to EMS 1.2.0.

Installation and Licensing

Before you install and license FortiClient EMS for Chromebooks on a server, ensure you have:

- Reviewed Licenses on page 13
- Met the requirements listed in the Required services and ports on page 14
- Completed the Server readiness checklist for installation on page 15
- Logged into the server as the administrator. The administrator user account is equivalent to a Windows administrator account and provides access to all common services, FortiClient EMS for Chromebooks, and other application tasks. You can use this account to initially log into the server and to create other user accounts for normal day-to-day use of the applications.

It is recommended that you install FortiClient EMS for Chromebooks on a dedicated server in a controlled environment. Installing other software applications can interfere with the normal operation of FortiClient EMS for Chromebooks.

Downloading the installation file

FortiClient EMS for Chromebooks is available for download from the following location:

- Fortinet Support website: https://support.fortinet.com/

You can also receive the installation file from a sales representative.

The following installation file is available for FortiClient EMS for Chromebooks:

- `FortiClientEnterpriseManagement_Chromebook_1.2.0.<build>_x64.exe`

For more information about obtaining FortiClient EMS for Chromebooks, contact your Fortinet reseller.

Installing FortiClient EMS for Chromebooks

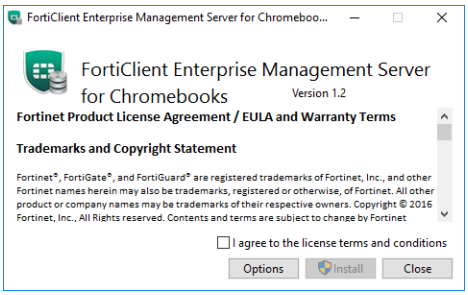
The FortiClient EMS for Chromebooks installation package includes:

- FortiClient EMS for Chromebooks
- Microsoft SQL Server 2014 Express Edition
- Apache HTTP server

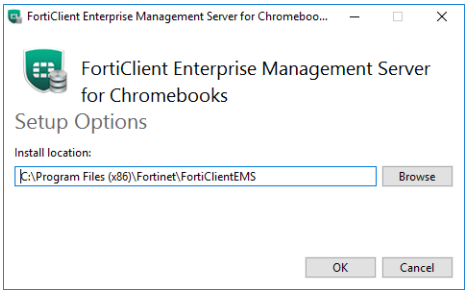
Local administrator rights and Internet access are required to install FortiClient EMS for Chromebooks.

To install FortiClient EMS for Chromebooks:

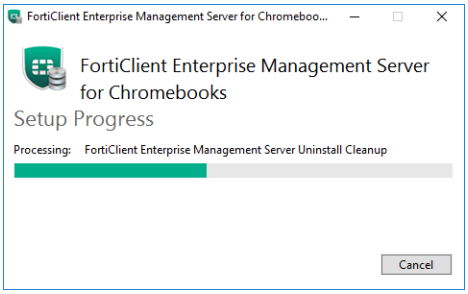
1. If you are logged into the system as an administrator, double-click the downloaded installation file.
   If you are not logged in as an administrator, right-click the installation file, and select *Run as administrator* from the popup menu.
2. If applicable, select *Yes* in the *User Account Control* window to allow the program to make changes to your system.
3. In the installation window, select *I agree to the license terms and conditions*, if you agree with the license terms and conditions. If you do not agree, you cannot install the software.



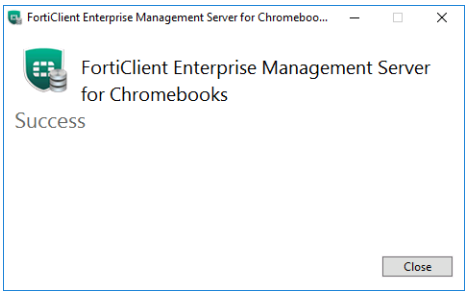
4. (Optional) Click *Options* to specify a custom directory for the FortiClient EMS for Chromebooks installation.



   a. Click *Browse* to locate and select the custom directory.
   b. Click *OK* to return to the installation wizard.
5. Click *Install*.
   The installation may take 30 minutes or longer. It may appear to stop at times, but this is only because certain steps in the installation process take longer than others. Please be patient.



6. When the program has installed correctly, the *Success* window will be displayed. Click *Close* to close the window.



A *FortiClient Enterprise Management Server* icon will be added to the desktop.

Starting FortiClient EMS for Chromebooks and logging in

FortiClient EMS for Chromebooks runs as a service on Windows computers.

To start FortiClient EMS:

1. Double-click the *FortiClient Enterprise Management Server for Chromebooks* icon to start FortiClient EMS.
2. Sign in with username *admin* and no password.
3. Change the username and password by going to *View* > *User Management* > *Administration*.
4. Configure FortiClient EMS for Chromebooks by going to *View* > *Settings*.

Accessing FortiClient EMS remotely

You can access FortiClient EMS for Chromebooks remotely by using a web browser instead of the GUI.

To enable remote access to FortiClient EMS for Chromebooks:

1. Go to *View* > *Settings*.
2. On the *Server Settings* tab, enable *Remote Administration HTTPS Access*.
3. In the *Custom Host Name* box, type the host name or IP address.
4. Click *Save*.

To remotely access FortiClient EMS for Chromebooks:

- To access EMS from the EMS server, visit `https://localhost`
- To access the server remotely, use the server's hostname: `https://<server_name>`
  Ensure that you can ping `<server_name>` remotely. This can be achieved by adding it into a DNS entry or by adding it to the Windows hosts file. You may have to modify the Windows firewall rules to allow the connection.

Licensing FortiClient EMS for Chromebooks

To license FortiClient EMS for Chromebooks:

1. Purchase FortiClient EMS for Chromebooks from a reseller.

   You can visit fortinet.com/partners.html to find a reseller. Once you purchase FortiClient EMS for Chromebooks, you will receive the *FortiClient Host Security License Certificate* via email. This email contains the *Certificate Number* that will be used to obtain the FortiClient EMS for Chromebooks License.
2. Log into the Fortinet Support site.
3. Register FortiClient EMS for Chromebooks:
   a. Click *Register and Renew*.
   b. Enter the *Certificate Number*. This is the number you received in the FortiClient Host Security License Certificate email.

      If you have not already registered an EMS device, you will be prompted to do so. This will require obtaining the *Hardware ID* from FortiClient EMS. You can obtain the *Hardware ID* by going to *Help > About > Hardware ID*.
   c. Enter the *Hardware ID*.
   d. Enter the *Fortinet Partner Reseller*.
   e. Read, verify and agree to the *Terms and Conditions* of the service.
   f. Verify the Product Entitlement List for your recent FortiClient EMS for Chromebooks purchase. Check the *By accepting these terms...* checkbox. Then, click *Confirm*. The license file will now be available to use with your FortiClient EMS for Chromebooks installation.
   g. Click *Finish*.
4. Retrieve the license key:
   a. From your *Products List*, select FortiClient EMS.
   b. From the left panel, select *License and Key*.
   c. From the *Available Keys List*, select the FortiClient EMS entry. Then, click *Get the License File*.
5. License FortiClient EMS for Chromebooks:
   a. From FortiClient EMS for Chromebooks, go to *View > Upgrade License*, and click *Browse*.
   b. Select the license file and click *Upload File*. You have successfully licensed FortiClient EMS for Chromebooks.

If you need to upgrade or renew your license, please contact Fortinet Support.

License status

The status of your license is displayed in the *Dashboard > System Information* widget. The status of your license can change. The options are:

License Status	Description
Trial	If you have just installed FortiClient EMS for Chromebooks, the trial license is enabled by default. You should upload the license file that you purchased.
Non-Expired License	You have the option to upgrade the license. For more information, see License upgrades or renewals on page 58.
Expired License	You have the option to renew the license. For more information, see License upgrades or renewals on page 58.

Help with licensing

For licensing issues with FortiClient EMS for Chromebooks, contact the licensing team at Fortinet Technical Assistance Center (TAC):

- Phone: +1-866-648-4638
- Technical support: support.fortinet.com/

Specifying different ports

In cases where there are pre-existing services running on default FortiClient EMS for Chromebooks ports, you can specify another port by using the CLI to run the installer. You can use the following commands:

Command	Description
`RemoteManagementPort`	The port that will be used for EMS administration.

Upgrading Microsoft SQL Server Express to Microsoft SQL Server Standard or Enterprise

FortiClient EMS for Chromebooks is installed with Microsoft SQL Server Express. This has a file size limit of 10 GB per database. Log entries recorded in the database are rotated on a schedule of seven days (one week) by default. If the FortiClient deployment is large, the database size may reach the 10 GB limit over time. The EMS admin may upgrade the SQL Server from Express to Standard or Enterprise edition. The database file size limit for both of these two editions is in the PB range (unlimited for most practical usage).

Microsoft SQL Server Express is a free edition. All other editions require a license from Microsoft.

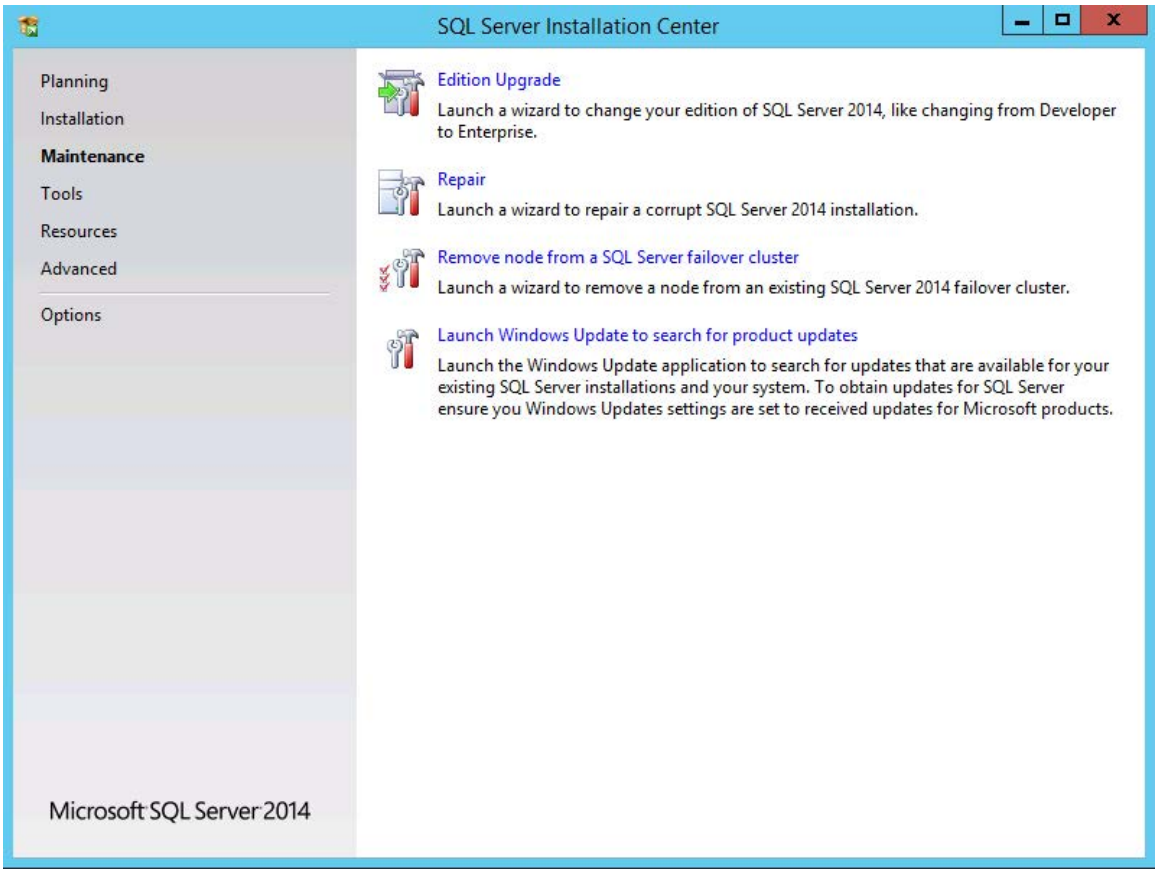
See also the following Microsoft documentation on upgrading between editions called *Upgrade to a Different Edition of SQL Server 2014 (Setup)* located at https://technet.microsoft.com/en-us/library/cc707783(v=sql.120).aspx

The EMS database is saved in the *C:\Program Files\Microsoft SQL Server\MSSQL12.FCEMS\MSSQL\DATA\FCM_root.mdf* file in the EMS host server. The size of this file should remain below the 10 GB limit for Microsoft SQL Server Express.

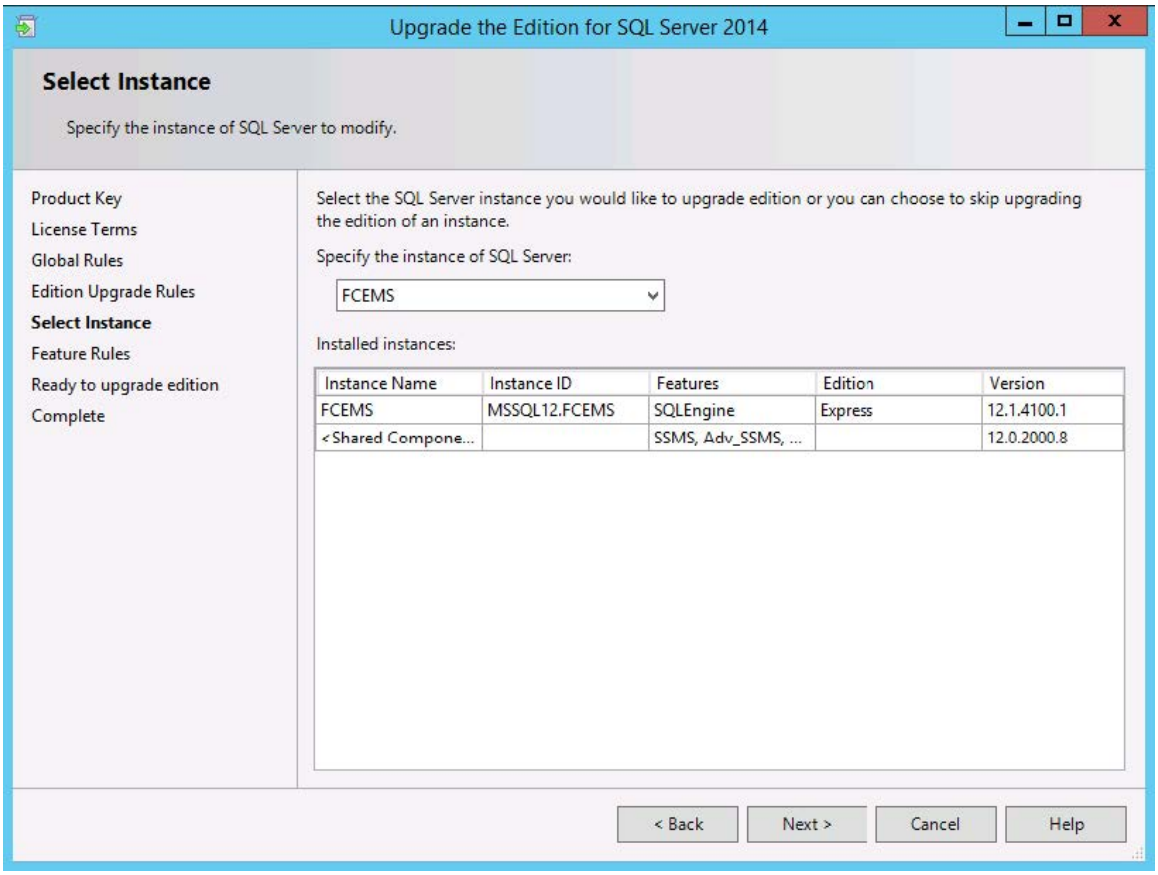
It is recommended to do a database edition upgrade outside normal production hours.

To upgrade Microsoft SQL Server Express:

1. Attach the SQL Server 2014 installation media to the EMS server.
   The installation media is a DVD or ISO file. If you are using the DVD, insert the DVD into the EMS host computer (host server). Use the ISO file if your host server is a virtual machine.
2. Run the SQL Server setup application wizard.
3. In the SQL Server Installation Center wizard, go to *Maintenance* > *Edition Upgrade*.



4. Enter the *product key*.
5. Accept the license terms. Then, click *Next*.
6. Under *Select Instance*, in the *Specify the instance of SQL Server* dropdown list, select *FCEMS*. Then, click *Next*.



7. Under *Ready to upgrade edition*, click *Upgrade*.
8. After the upgrade is complete, click *Finish*.

Testing the SQL server upgrade

It is recommended to run a short test on FortiClient EMS for Chromebooks after the upgrade to verify proper operations. A simple test may be to:

- Register FortiClient on one or two test endpoints to EMS.
- Create a new custom group in FortiClient EMS for Chromebooks and add the test endpoints to the new custom group.
- Create a new endpoint profile, and assign it to the new custom group.
- Check that FortiClient on the test endpoints received the new profile.

Monitor the system closely over the first few days for any unusual behavior.

Uninstalling FortiClient EMS for Chromebooks

Use the *Programs and Features* pane of the Control Panel in Microsoft Windows to uninstall FortiClient EMS for Chromebooks.

FortiClient EMS for Chromebooks installs the following dependencies. If they are not being used by other applications on the same computer, they can be uninstalled manually after the EMS has been removed.

- Microsoft ODBC Driver 11 for SQL Server
- Microsoft SQL Server 2008 Setup Support Files
- Microsoft SQL Server 2012 Native Client
- Microsoft SQL Server 2014 (64-bit)
- Microsoft SQL Server 2014 Setup (English)
- Microsoft SQL Server 2014 Transact-SQL ScriptDom
- Microsoft Visual C++ 2010 x64 Redistributable – 10.0
- Microsoft Visual C++ 2010 x86 Redistributable – 10.0
- Microsoft Visual C++ 2013 x86 Redistributable – 12.0
- Microsoft VSS Writer for SQL Server 2014
- SQL Server Browser for SQL Server 2014

To uninstall FortiClient EMS for Chromebooks:

1. Select *Start* > *Control Panel* > *Programs* > *Uninstall a program*.
2. Select *FortiClient Enterprise Management Server*, and click *Uninstall*.
3. Follow the uninstallation wizard prompts.

Google Admin Console Setup

This section describes how to add and configure the FortiClient Web Filter extension on Chromebooks that are enrolled in the Google domain.

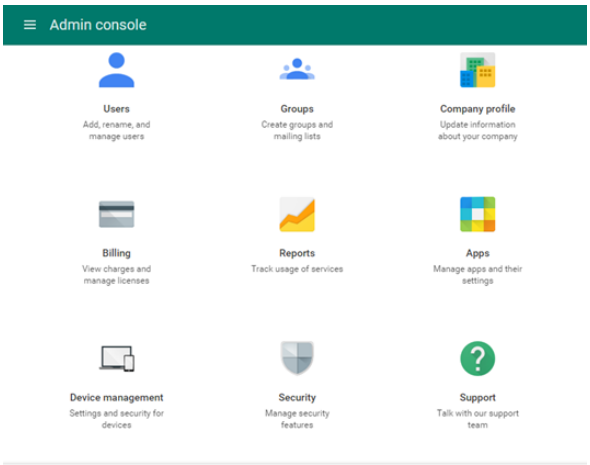
Following is a summary of how to set up the Google Admin console:

1. Log into the Google Admin console. See Logging into the Google Admin console on page 25
2. Add the FortiClient Web Filter extension. See Configuring the FortiClient Web Filter extension on page 26.
3. Configure the FortiClient Web Filter extension. See Configuring the FortiClient Web Filter extension on page 26.
4. Add the root certificate. See Adding root certificates on page 27.

Logging into the Google Admin console

To log into the Google Admin console:

1. Log into the Google Admin console (https://admin.google.com) by using your Google domain admin account. The Admin console is displayed.



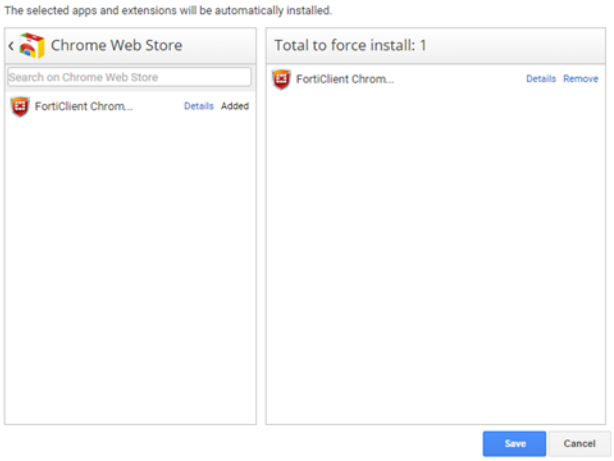
Adding the FortiClient Web Filter extension

FortiClient EMS for Chromebooks software is not available for public use. You can only enable the feature by using the following extension ID: igbg-pehnbmhgdgjbhkkpedommgmfbeao

To add the FortiClient Web Filter extension:

1. In the Google Admin console, go to *Device management* > *Chrome Management* > *User Settings* > *Apps and Extensions* > *Force-installed Apps and Extensions* > *Manage force-installed apps*.

2. Select *Chrome Web Store*, and search for the following extension ID: igbgpehnbmhgdgjbhkkpedommgmfbeao.
3. Add the extension ID and save.
   The extension name is displayed as *FortiClient Chromebook Web Filter Extension*.



Configuring the FortiClient Web Filter extension

You must configure the FortiClient Chromebook Web Filter extension to enable the Google Admin console to communicate with FortiClient EMS for Chromebooks.

FortiClient EMS for Chromebooks hosts the services that assign endpoint profiles of web-filtering policies to groups in the Google domain. FortiClient EMS for Chromebooks also handles the logs and web-access statistics sent from the FortiClient Web Filter extensions.

FortiClient EMS for Chromebooks is the profile server.

To configure the FortiClient Web Filter extension:

1. In FortiClient EMS for Chromebooks, locate the server name and port by going to *View* > *Settings*.
2. Create a text file that contains the following text:

```
{
   "ProfileServerUrl": { "Value": "https://< ProfileServer >:< port for Profile Server >"}
}
```

   For example:

```
{
   "ProfileServerUrl": { "Value": "https://ems.mydomain.com:8443”}
}
```

3. In the Google Admin console, go to *Device management* > *Chrome Management* > *App Management* > *FortiClient Chrome Web Filter Extension* > *User settings*.
4. Click a domain or organization unit (OU).
5. In the right pane, under *Configure*, upload a new configuration file.
   You can also view the current settings.

6. Click *Save*.
7. Go to *Device Management* > *Chrome* > *App Management* to view your configured Chrome apps.

Adding root certificates

This section includes the following information:

Communication with the FortiClient Chromebook Web Filter extension

The FortiClient Chromebook Web Filter extension communicates with FortiClient EMS for Chromebooks by using HTTPS connections. The HTTPS connections require an SSL certificate. You must obtain an SSL certificate and add the certificate to FortiClient EMS for Chromebooks to allow the extension to trust FortiClient EMS for Chromebooks.

If you use a public SSL certificate, you only need to add the public SSL certificate to FortiClient EMS for Chromebooks. See Adding SSL certificates to FortiClient EMS for Chromebooks on page 62.

However, if you prefer to use a certificate that is not from a common CA, you must add the SSL certificate to FortiClient EMS for Chromebooks, and you must also push the root CA of your certificate to the Google Chromebooks. Otherwise, the HTTPS connection between the FortiClient Chromebook Web Filter extension and FortiClient EMS for Chromebooks will not work. See Uploading root certificates to the Google Admin console on page 29.

Communication with FortiAnalyzer for logging

This section applies only if you are sending logs from FortiClient EMS for Chromebooks to FortiAnalyzer. If you are not sending logs, you can skip this FortiAnalyzer section.

Sending logs to FortiAnalyzer requires that you enable ADOMs in FortiAnalyzer and add FortiClient EMS for Chromebooks to FortiAnalyzer. FortiClient EMS for Chromebooks is added as a device to the FortiClient ADOM in FortiAnalyzer. For information on enabling ADOMs and adding a device to FortiAnalyzer, see the *FortiAnalyzer Administration Guide*.

FortiClient EMS for Chromebooks supports logging to FortiAnalyzer. If you have a FortiAnalyzer device and configure FortiClient EMS for Chromebooks to send logs to FortiAnalyzer, a FortiAnalyzer CLI command must be enabled and an SSL certificate is required to support communication between the FortiClient Web Filter extension and FortiAnalyzer.

If you use a public SSL certificate, you only need to add the public SSL certificate to FortiAnalyzer. See Adding SSL certificates to FortiAnalyzer on page 28.

However, if you prefer to use a certificate that is not from a common CA, you must add the SSL certificate to FortiAnalyzer, and you must also push the root CA of your certificate to the Google Chromebooks. Otherwise, the

HTTPS connection between the FortiClient Chromebook Web Filter extension and FortiAnalyzer will not work. See Uploading root certificates to the Google Admin console on page 29.

The FortiAnalyzer IP address should be specified in the SSL certificate. If you're using a public SSL certificate, the FortiAnalyzer IP address can be assigned to either *Common Name* or *Alternative Name*. If you're using a self-signed (nonpublic) SSL certificate, the *Subject Alternative Name* of your certificate must include `IP:<FortiAnalyzer IP>`.

Enabling HTTP and HTTPS logging access to FortiAnalyzer

You must use the FortiAnalyzer CLI to add HTTP-logging to the allow-access list in FortiAnalyzer. This command is one step in the process that allows FortiAnalyzer to receive logs from FortiClient EMS for Chromebooks.

In FortiAnalyzer CLI, enter the following command:

```
config system interface
   edit "port1"
      set allowaccess https ssh http http-logging https-logging
   next
end
```

Adding SSL certificates to FortiAnalyzer

To add SSL certificates to FortiAnalyzer:

1. In FortiAnalyzer, go to *System Settings* > *Certificates* > *Local Certificates*.
2. Click *Import*. The *Import Local Certificate* dialog box appears.
3. In the *Type* list, select *Certificate*. Or,
   In the *Type* list, select *PKCS #12 Certificate* to upload the certificate in PK12 format.
4. Beside *Certificate File*, click *Browse* to select the certificate.
5. Enter the password and certificate name.
6. Click *OK*.

Selecting certificates for HTTPS connections

To select certificates for HTTPS connections:

1. In FortiAnalyzer, go to System *Settings* > *Admin* > *Admin Settings*.
2. In the *HTTPS & Web Service Certificate* box, select the certificate you want to use for HTTPS connections, and click *Apply*.

Summary of where to add certificates

The following table summarizes where to add certificates to support communication with the FortiClient Web Filter extension and with FortiAnalyzer.

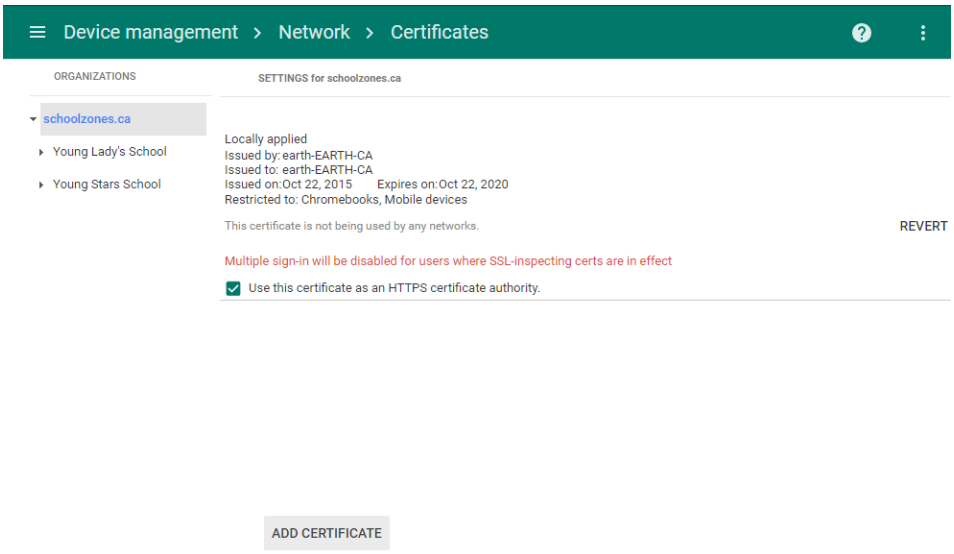
Scenario	Certificate and CA	Where to Add Certificates
Allow the FortiClient Chromebook Web Filter extension to trust EMS	Public SSL certificate	• Add SSL certificate to FortiClient EMS for Chromebooks.
	SSL certificate not from a common CA	• Add SSL certificate to FortiClient EMS for Chromebooks. • Add the root CA of your certificate to the Google Admin console.
Allow the FortiClient Chromebook Web Filter extension to trust FortiAnalyzer for logging	Public SSL certificate	• Add SSL certificate to FortiAnalyzer.
	SSL certificate not from a common CA	• Add SSL certificate to FortiAnalyzer. • Add the root CA of your certificate to the Google Admin console.

Uploading root certificates to the Google Admin console

To add root certificates:

1. In the Google Admin console, go to *Device Management* > *Network* > *Certificates (root certificate) (crt certificate)*.
2. Add the root certificate.
3. Select the *Use this certificate as an HTTPS certificate authority* checkbox.

Do not forget to select the *Use this certificate as an HTTPS certificate authority* checkbox.



Disabling access to Chrome developer tools

It is recommended to disable access to Chrome developer tools. This blocks users from disabling the FortiClient Web Filter extension.

To disable access to Chrome developer tools:

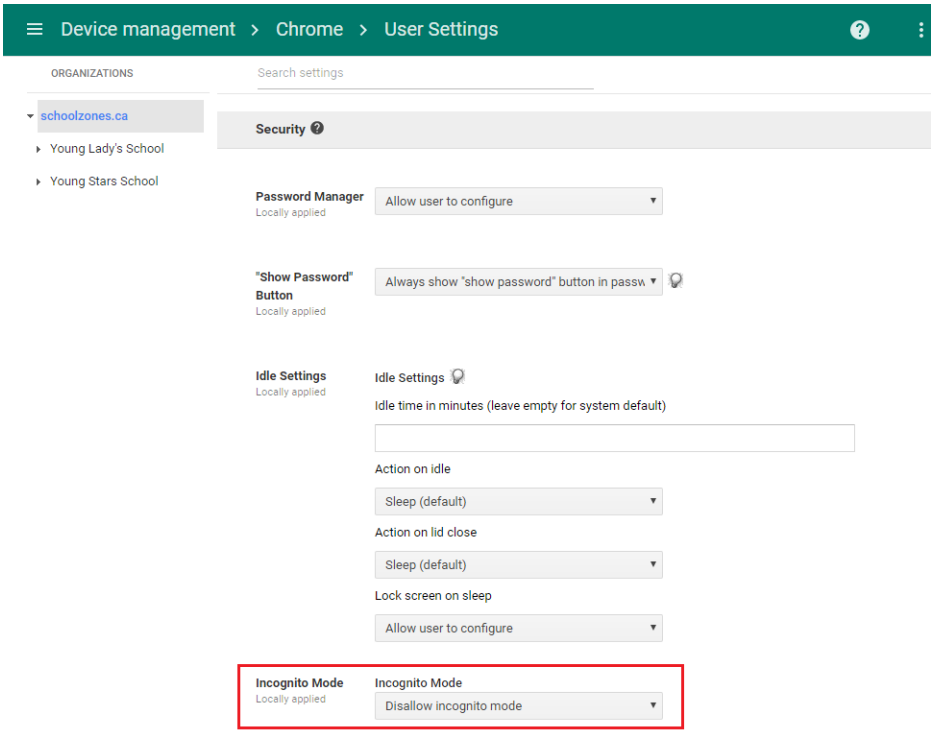
1. In the Google Admin console, go to *Device management* > *Chrome Management* > *User Settings*.
2. For the *Developer Tools* option, select *Never allow user of built-in developer tools*.

Disallowing incognito mode

When users browse in incognito mode, extensions will be bypassed. Incognito mode should be disallowed for managed Google domains.

To disallow incognito mode:

1. In the Google Admin console, go to *Device management* > *Chrome management* > *User settings*.
2. From the left panel, select the organization.
3. In the *Security* section, set *Incognito Mode* to *Disallow incognito mode*.



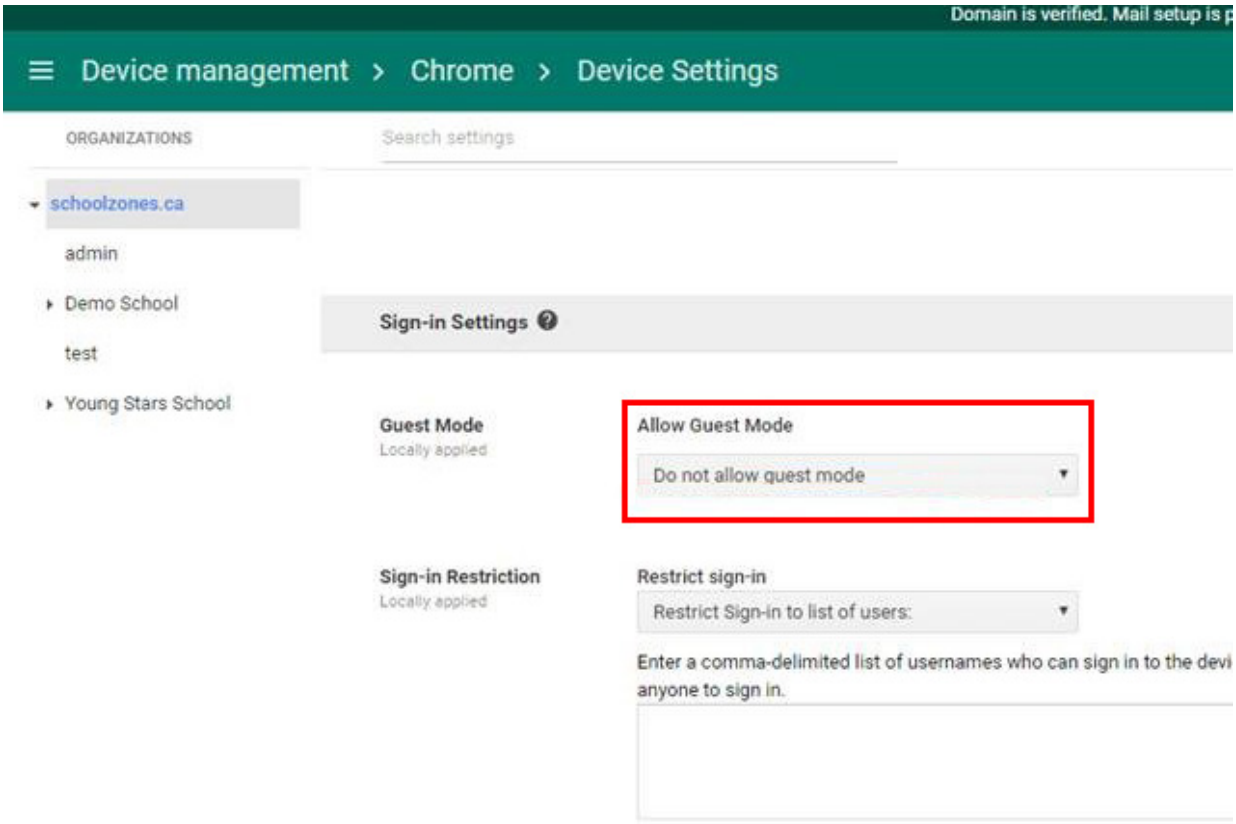
4. Click *Save*.

Disallowing guest mode

Guest mode should be disallowed for managed Google domains.

To disallow guest mode:

1. In the Google Admin console, go to *Device management* > *Chrome management* > *Device settings* > *Sign-in settings*.
2. From the left panel, select the organization.
3. Under *Guest Mode* > *Allow Guest Mode* > select *Do not allow guest mode* from the dropdown list.



4. Click *Save*.

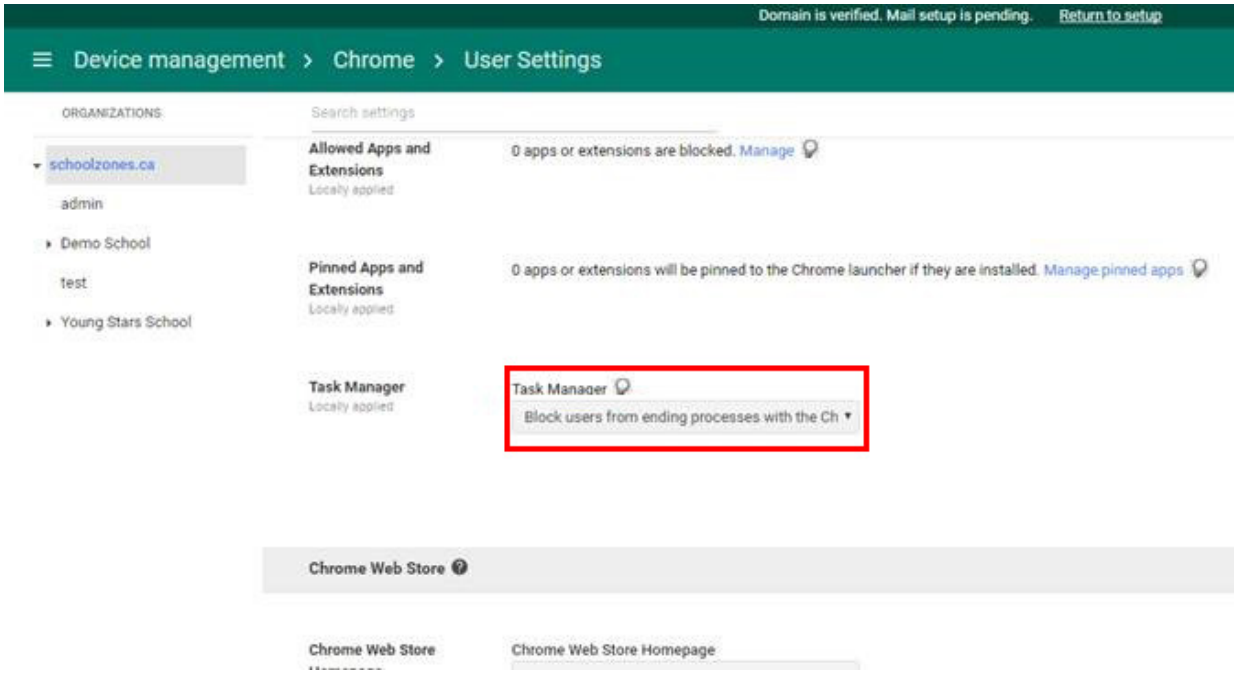
Blocking Task Manager

Task Manager should be blocked for managed Google domains.

To block Task Manager:

1. In the Google Admin console, go to *Device Management* > *Chrome Management* > *User settings* > *Apps and Extensions*.

2. From the left panel, select the organization.
3. Under *Task Manager* select *Block users from ending processes with the Chrome Task Manager* from the dropdown list.



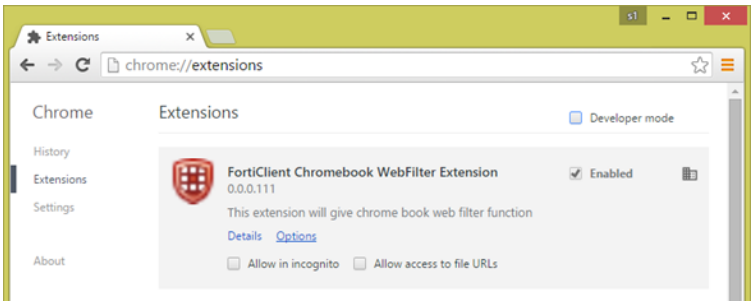
4. Click *Save*.

Verifying the FortiClient Web Filter extension

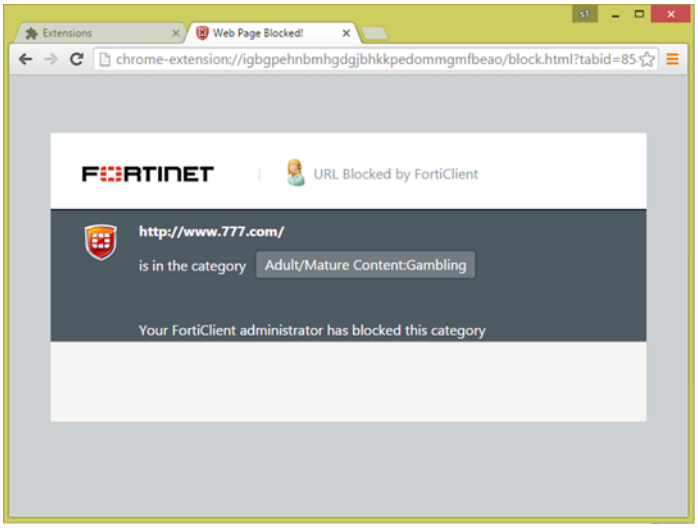
After you add the Google domain to FortiClient EMS for Chromebooks, the Google Admin console automatically pushes the FortiClient Web Filter extension to the Chromebooks when users log into the Google domain. You can verify that the feature is available in Chromebooks.

To verify that the extension is installed:

1. Open the Google Chrome browser.
2. Type the following in the address bar: *chrome://extensions*



3. Visit any gambling site, such as http://www.777.com, and confirm that the site is blocked.



Service Account Credentials

FortiClient EMS for Chromebooks requires service account credentials generated by the Google Developer console. You can use the default service account credentials provided with FortiClient EMS for Chromebooks, or you can generate and use unique service account credentials, which is more secure.

This section describes how to configure default and unique service account credentials. See the following sections:

- Configuring default service account credentials on page 34
- Configuring unique service account credentials on page 35

The service account credentials must be the same in FortiClient EMS for Chromebooks and the Google Admin console.

Configuring default service account credentials

FortiClient EMS for Chromebooks includes the following default service account credentials generated by the Google Developer console:

Option	Default Setting	Where Used
Client ID	102515977741391213738	Google Admin console
Email address	account-1@forticli-entwebfilter.iam.gserviceaccount.com	FortiClient EMS for Chromebooks
Service account certificate	A certificate in `.pem` format for the service account credentials	FortiClient EMS for Chromebooks

The service account credentials are a set. If you change one of the credentials, you must also change the other two credentials.

Adding the default service account client ID to the Google Admin console

To configure the default service account credentials, you must add the default value for the client ID to the Google Admin console. No other configuration for service account credentials is required. See Adding service account credentials to the Google Admin console on page 38.

Configuring unique service account credentials

When using unique service account credentials for improved security, you must complete the following steps to add the unique service account credentials to the Google Admin console and FortiClient EMS for Chromebooks:

1. Create unique service account credentials by using the Google Developer console. See Creating unique service account credentials on page 35.
2. Add the unique service account credentials to the Google Admin console. See Adding service account credentials to the Google Admin console on page 38.
3. Add the unique service account credentials to FortiClient EMS for Chromebooks. See Adding service account credentials to EMS on page 39.

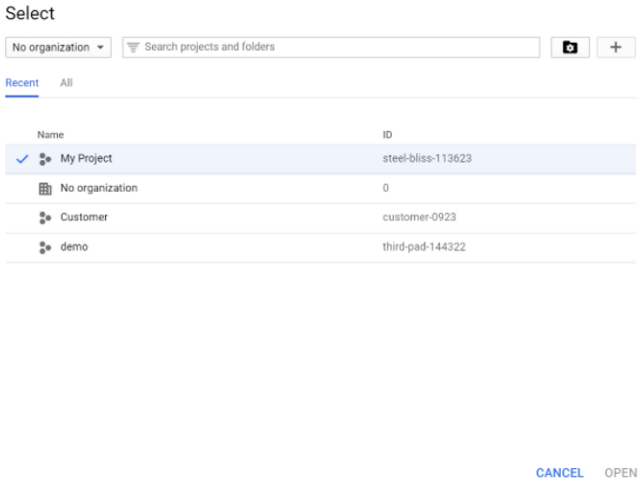
Creating unique service account credentials

Creating a unique set of service account credentials provides more security. Unique service account credentials include the following:

- Client ID (a long number)
- Service account ID (Email address)
- Service account certificate (a certificate in `.pem` format)

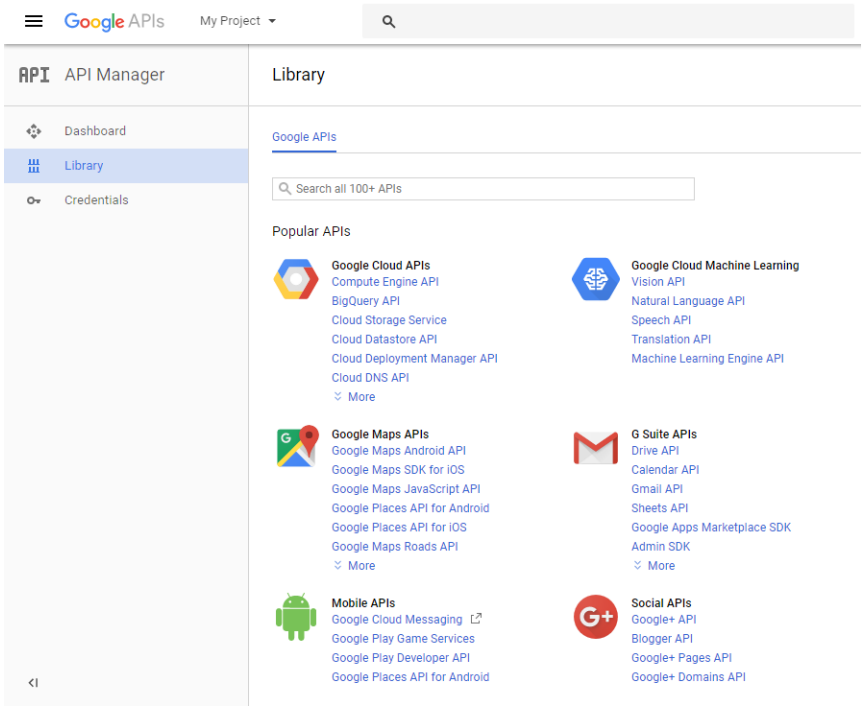
To create a unique service account:

1. Go to https://console.developers.google.com.
2. Log in with your Google for Work account credentials.
3. Create a new project.
   a. Click the toolbar list. The browser displays the following dialog.

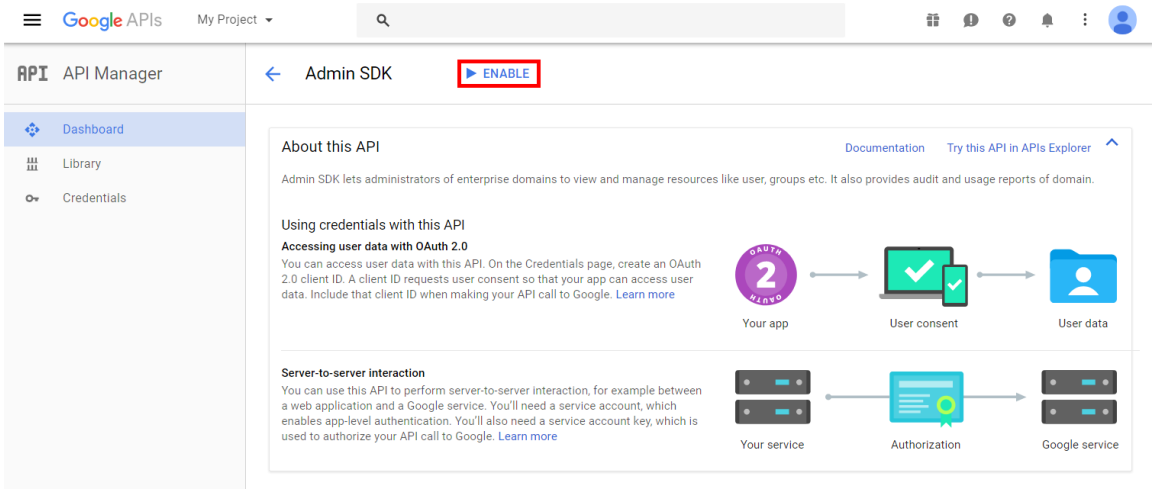


   b. Select your organization, if you see an organization dropdown list.
   c. Click the + button.
   d. In the *Project name* field, enter your project name, then click *Create*.
4. Enable the Admin SDK.

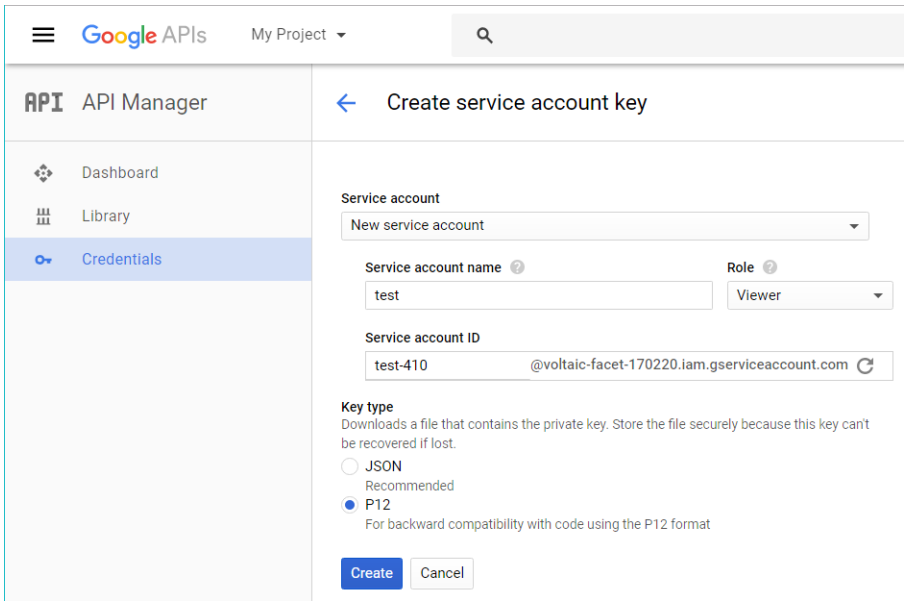
a. Select your project from the toolbar list, then go to the *Library* tab.
b. Under *G Suite APIs*, click *Admin SDK*.



c. Click *ENABLE*.

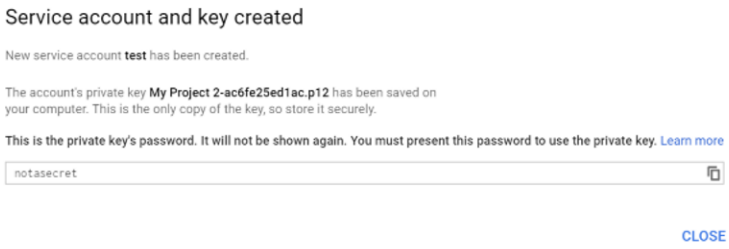


5. Create a service account.
   a. Go to the *Credentials* tab and select *Create Credentials* > *Service account key*.
   b. From the *Service account* list, select *New Service Account*. Enter a service account name.
   c. From the *Role* list, select *Project* > *Viewer*.
   d. Select *P12* as the *Key type* and click *Create*.

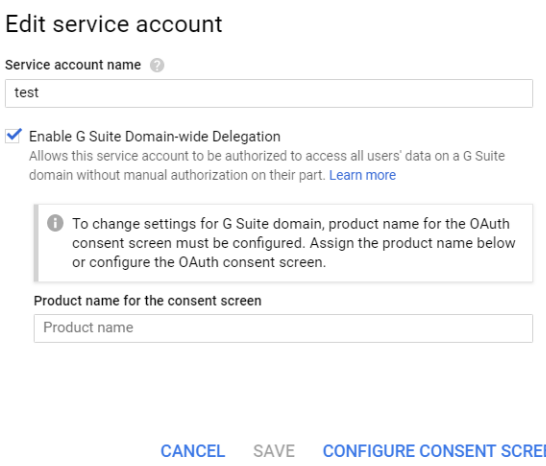


After you create the service account, a private key with the `P12` extension will be saved on your computer.

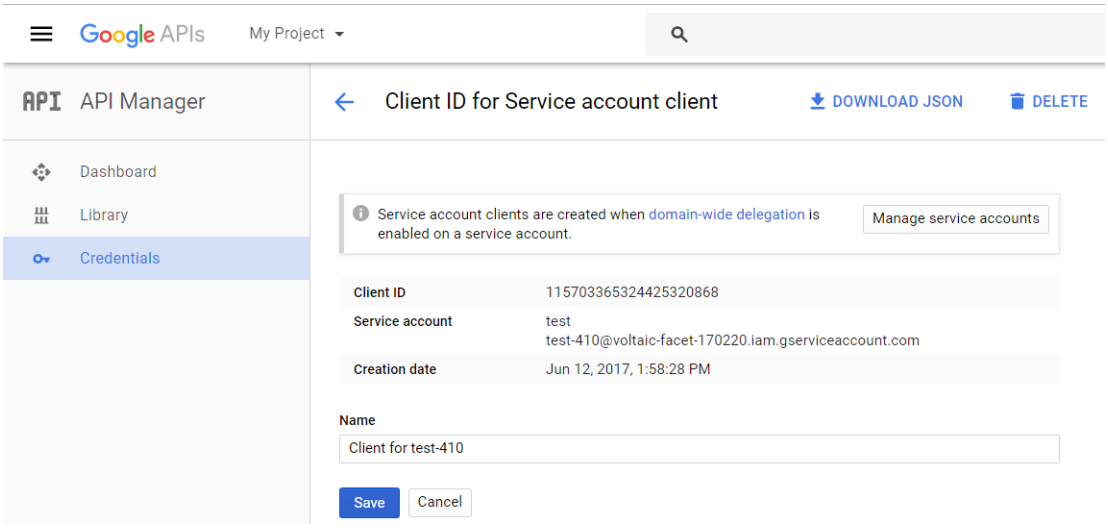
The private key with the `P12` extension is the only copy you will receive. Keep it in a safe place. You should also remember the password prompted on the screen. At this time, that password should be **`notasecret`**.



6. Go to the *Credentials* page > *Manage service accounts*.
7. *Edit* the service account you just created and enable the *Enable Google Apps Domain-Wide Delegation* checkbox. Enter a *Product name for the consent screen* if this field appears.



8. Click *Save*.
9. Click *View Client ID*, and you will see your service account information. Record the client ID, service account, and the associated private key (downloaded in step 5d).



To use the private key in EMS, it needs to be converted to `.pem` format. You can use the following `openssl` command to convert it. Remember to use the notasecret password.

```
C:\OpenSSL-Win64\bin>openssl pkcs12 -in demo-
    976b9d6e9328.p12 -out serviceAccount-demo.pem -nodes -
    nocerts
Enter Import Password:
```

Adding service account credentials to the Google Admin console

This section describes how to add the client ID from the service account credentials to the Google Admin console. These settings allow Google to trust FortiClient EMS for Chromebooks, which enables FortiClient EMS for Chromebooks to retrieve information from the Google domain.

To add the client ID:

1. In the Google Admin console, go to *Security* > *Advanced settings* > *(you might need to click "show more" to see this)* > *Manage API client access*.
2. Set the following options:
   a. For the *Client Name* option, add the client ID from the service account credentials.
   b. For the *API Scopes* option, add the following string:
   https://www.googleapis.com/auth/admin.directory.orgunit.readonly,https://www.googleapis.com/auth/admin.directory.user.readonly

   The API Scopes are case-sensitive and must be lowercase. You might need to copy the string into a text editor and remove spaces created by words wrapping to the second line in the PDF.

3. Click *Authorize*.

Adding service account credentials to EMS

The section describes how to add the service account ID and the service account certificate from the service account credentials to FortiClient EMS for Chromebooks.

To add service account credentials:

1. In FortiClient EMS for Chromebooks, go to *View* > *Settings*.
2. Click *EMS for Chromebook*, and set the following options:

   The default service account credentials are displayed. Overwrite the default settings with the unique set of service account credentials that you received from Fortinet.

Service Account ID	Displays the configured email address provided for the service account credentials.
New Service Account ID	Type a new email address for the service account credentials.
New Service Account Private Key	Click *Browse*, and select the certificate provided with the service account credentials.

3. Click *Save*.
4. Update the client ID in the Google Admin console.

The service account credentials are a set. If you change one of the credentials, you must also change the other two credentials.

GUI

The FortiClient EMS for Chromebooks GUI consists of the following areas:

- Banner
- Left pane
- Content pane

Banner

Option	Description
License Information	Displays current license status and number of licenses.
View	View and configure the following: • Upgrade License • User Management • Database Management • View Logs • Settings
Help	View the following: • Technical Documentation • How-To Videos • Forums • Getting Started • Create Support Package • About
<Logged in user name>	Click the dropdown list beside the <logged in user name> to log out of FortiClient EMS for Chromebooks.

Left pane

The left navigation pane is used to display content in the right content pane.

Option	Description
Dashboard	Displays a dashboard of information about all managed endpoints.
Google Domains	Add and manage Google domains.

Option	Description
Endpoint Profiles	Create and assign profiles as well as manage profile updates.

Content pane

The right content pane displays the user interface controls that correspond to the selection you make in the left pane. The status and menu icons in the top-right display controls what you can use to configure additional settings for user management and each individual endpoint.

Dashboard

You can use the dashboard to view summary information about the system and endpoints.

Viewing the Dashboard

To view the Dashboard:

1. In the left pane, click *Dashboard*.
   A *System Information* widget as well as charts and widgets of summary information are displayed. For descriptions, see System Information widget on page 42 and Dashboard charts and widgets on page 43.
2. Click an event summary.
   The list of endpoints for the summary is displayed.
3. Click the *Back* button to return to the *Dashboard*.
4. Click a pie chart.
   The *Endpoints* content pane is displayed with more details about the endpoints related to the pie charts.

System Information widget

The following information is displayed in the *System Information* widget:

Option	Description
Hostname	Name of the computer on which FortiClient EMS for Chromebooks is installed.
Serial Number	Serial number for FortiClient EMS for Chromebooks.
License Status	Status of the license for FortiClient EMS for Chromebooks. See also Licensing FortiClient EMS for Chromebooks on page 20.
Used Licenses	Number of used licenses out of the total number of available licenses. Also displays a button for entering, upgrading, and renewing a license, depending on the license status. If you have just installed EMS, click the *Enter License* button to upload your license file. If you have a non-expired license, but would like to upgrade your license, click the *Upgrade* button to upgrade your license file. If your current license is expiring, the *Renew* button will be enabled for you to upload your new license file.
System Time	Time and date used by the computer on which FortiClient EMS for Chromebooks is installed.

Option	Description
System Database	Options to back up and restore the database. Click *Backup* to back up the database. Click *Restore* to restore a backed up database.
Current Admin	Name of the administrator logged into FortiClient EMS for Chromebooks.
Uptime	Number of days, hours, minutes, and seconds that FortiClient EMS for Chromebooks has been running.

Dashboard charts and widgets

The Dashboard displays a number of pie charts. Each pie chart provides a summary of endpoint information. The sections in each of the charts are links. You can click any section of the pie charts or any row in the table to display more details.

Option	Description
Client Stats	Statistics of clients in use. The data in this widget is determined by the value entered in the *Settings* > *Log Settings* > *Auto Remove Web Filter Logs* section. • Managed and Unmanaged • Online and Offline • On-Net and Off-Net
Top 10 Web Filter Violations by Category (Past <number> Days)	The chart displays the top ten web filter violations by category in the past few days. You can configure the number of days. Go to *View* > *Log Settings*.
Top 10 Web Filter Violation by User (Past <number> Days)	The chart displays the top ten web filter violations a user has made in the past few days. You can configure the number of days. Go to *View*> *Log Settings*.
Top 10 Site Categories by Distribution (Past <number> Days)	The chart displays the distribution of top ten site categories in the past few days. You can configure the number of days. Go to *View* > *Log Settings*.
Blocked Sites Distribution (Past <number> Days)	The chart displays the distribution of blocked sites in the past few days. You can configure the number of days. Go to *View* > *Log Settings*.
Blocked Site Logs (Past <number> Days)	The chart displays the distribution of blocked site logs in the past few days. You can configure the number of days. Go to *View* > *Log Settings*.

Domains

FortiClient EMS for Chromebooks needs to determine which devices to manage. Device information comes from the Google Admin console.

Viewing domains

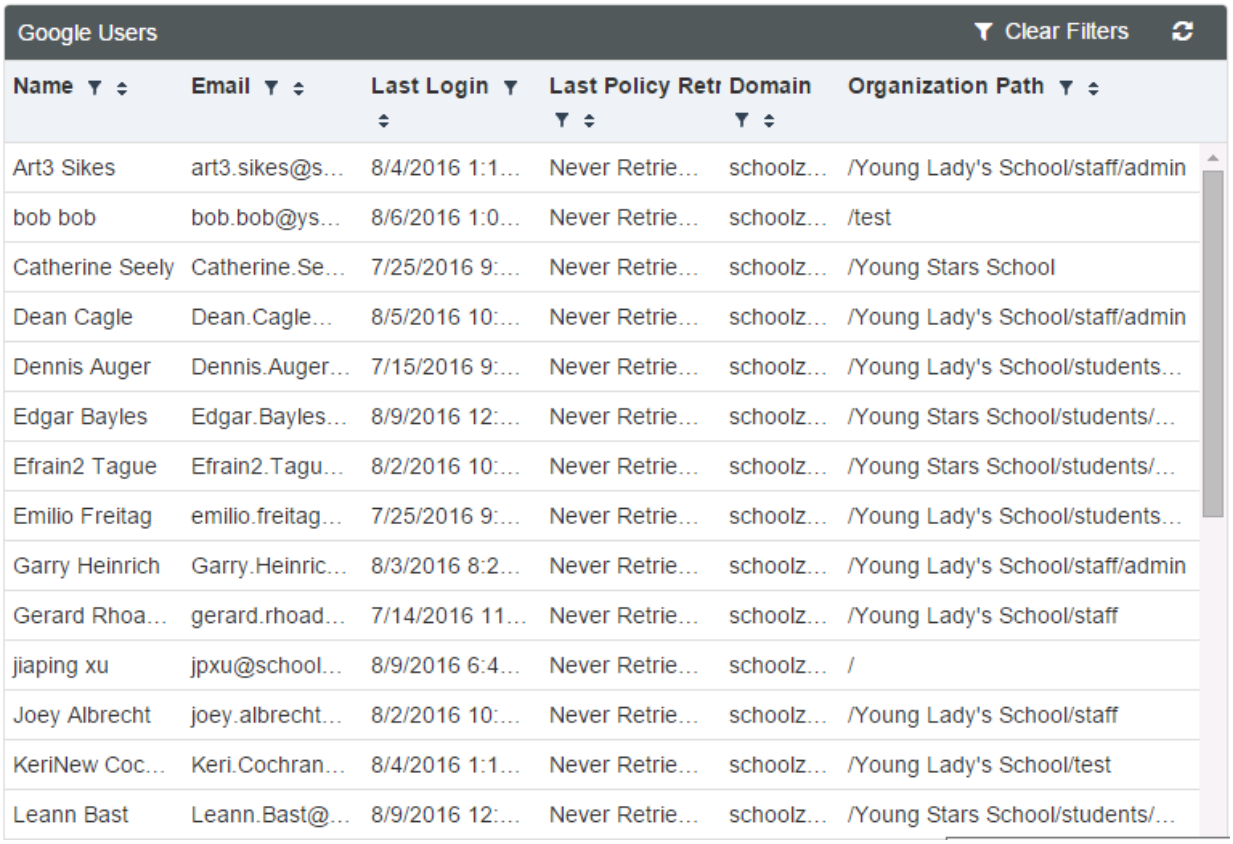
After you add domains to FortiClient EMS for Chromebooks, you can view the list of domains in *Google Domains*. You can also view the list of Google users in each domain as well as details about each Google user in the *User Details*, *Client Statistics*, and *Blocked Sites* panes.

Viewing the Google Users pane

You can view Google users information in FortiClient EMS for Chromebooks.

To view the Google Users pane:

1. Go to *Google Domains* > *Domains*, and click a domain. The list of Google users is displayed.



Name	Email	Last Login	Last Policy Retr	Domain	Organization Path
Art3 Sikes	art3.sikes@s...	8/4/2016 1:1...	Never Retrie...	schoolz...	/Young Lady's School/staff/admin
bob bob	bob.bob@ys...	8/6/2016 1:0...	Never Retrie...	schoolz...	/test
Catherine Seely	Catherine.Se...	7/25/2016 9:...	Never Retrie...	schoolz...	/Young Stars School
Dean Cagle	Dean.Cagle...	8/5/2016 10:...	Never Retrie...	schoolz...	/Young Lady's School/staff/admin
Dennis Auger	Dennis.Auger...	7/15/2016 9:...	Never Retrie...	schoolz...	/Young Lady's School/students...
Edgar Bayles	Edgar.Bayles...	8/9/2016 12:...	Never Retrie...	schoolz...	/Young Stars School/students/...
Efrain2 Tague	Efrain2.Tagu...	8/2/2016 10:...	Never Retrie...	schoolz...	/Young Stars School/students/...
Emilio Freitag	emilio.freitag...	7/25/2016 9:...	Never Retrie...	schoolz...	/Young Lady's School/students...
Garry Heinrich	Garry.Heinric...	8/3/2016 8:2...	Never Retrie...	schoolz...	/Young Lady's School/staff/admin
Gerard Rhoa...	gerard.rhoad...	7/14/2016 11...	Never Retrie...	schoolz...	/Young Lady's School/staff
jiaping xu	jpxu@school...	8/9/2016 6:4...	Never Retrie...	schoolz...	/
Joey Albrecht	joey.albrecht...	8/2/2016 10:...	Never Retrie...	schoolz...	/Young Lady's School/staff
KeriNew Coc...	Keri.Cochran...	8/4/2016 1:1...	Never Retrie...	schoolz...	/Young Lady's School/test
Leann Bast	Leann.Bast@...	8/9/2016 12:...	Never Retrie...	schoolz...	/Young Stars School/students/...

The following options are available in the toolbar:

Clear Filter (filter icon)	Click the *Clear Current Filter* icon to clear the currently used filter.
Refresh	Click the *Refresh* icon to refresh the page.

The following columns of information are displayed for Google users:

Name	Name of the Chromebook user.
Email	Email address of the Chromebook user.
Last Login	The date and time for when the user last logged into the domain.
Last Policy Retrieval	The date and time of the last endpoint profile retrieved by Google Chromebook.
Domain	The name of the domain to which the user belongs.
Organizational Path	The organization path in the domain.

Viewing user details

You can view details about each user in a Google domain.

To view user details:

1. Go to *Google Domains* > *Domains*. The list of domains is displayed.
2. Click a domain. The list of Google users is displayed.
3. Click a Google user, and scroll to the bottom of the content pane. The *User Details*, *Client Statistics*, and *Blocked Sites* panes are displayed.

User Details

Field	Information
Name	The name of the user.
Email	Email for the user.
Last Login	The date and time for when the user last logged into the domain.
Last Policy Retrieval	The date and time of the last endpoint profile retrieved by Google Chromebook.
Organization Path	The organization path of the user in the domain.
Effective Policy	The name of the profile assigned to the user in the domain.

Client Statistics

Charts	Information
Blocked Sites Distribution (past <number> days)	The chart displays the distribution of blocked sites in the past number of days. You can configure the number of days for which to display information. Go to *View* > *Settings* > *Log Settings*.
Top 10 Site Categories by Distribution (Past <number> Days)	The chart displays the distribution of top ten site categories in the past number of days. You can configure the number of days for which to display information. Go to *View* > *Settings* > *Log Settings*.

Blocked Sites (Past <number> Days)

Fields	Information
Time	The time the blocked site was visited.
Threat	The type of threat detected.
Client Version	The Chromebook user's current version.
OS	The type of OS used by the Chromebook user.
URL	The URL of the blocked site.
Port	The port number currently listening.
User Initiated	User initiated visitation to the blocked site.

Managing domains

You can manage domains from the *Google Domain* pane.

Editing domains

To edit domains:

1. Go to *Google Domains* > *Domains*, and select a domain.
2. Click the *Edit* button.
3. Edit the options, and click *Save Changes*.

Deleting domains

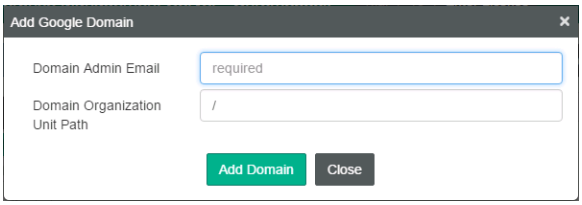
To delete domains:

1. Go to *Google Domains* > *Domains*, and select a domain.
2. Click the *Delete* button. A confirmation dialog box is displayed.
3. Click *Yes*.

Adding Google domains

To add Google domains:

1. Go to *Google Domains*, and click the *Add a new Google domain* icon (the + button). The *Add Google Domain* dialog box is displayed.



2. In the *Domain Admin Email* box, type your Google domain admin email.
3. In the *Domain Organization Unit Path* box, type the domain organization unit path.

/ stands for the root of the domain.

4. Click *Add Domain*.
   The Google domain information and users are imported into FortiClient EMS for Chromebooks.

Endpoint Profiles

You can use the default endpoint profile, or you can create endpoint profiles for many configurations and situations.

Configuring profiles

The profile currently supports web filtering by categories, black and white list, and safe search. You can create different profiles and assign the profiles to different groups in the Google domain.

Editing the default profile

You can edit the default profile to add or remove settings. You can revert to the default settings at any time by clicking the *Revert to Default* button.

To edit the default profile:

1. Go to *Endpoint Profiles*, and click the *Default* profile. The *Editing Profile: Default* pane is displayed.
2. Configure the settings on the tabs. For a description of the options, see Profile references on page 51.
3. Click *Save Profile* to save the profile.

Adding new profiles

When you install FortiClient EMS for Chromebooks, a default profile is created. This profile is applied to any domains that you add to FortiClient EMS for Chromebooks.

It is recommended to add Yandex search engine to the black list in the profile.

To create new profiles:

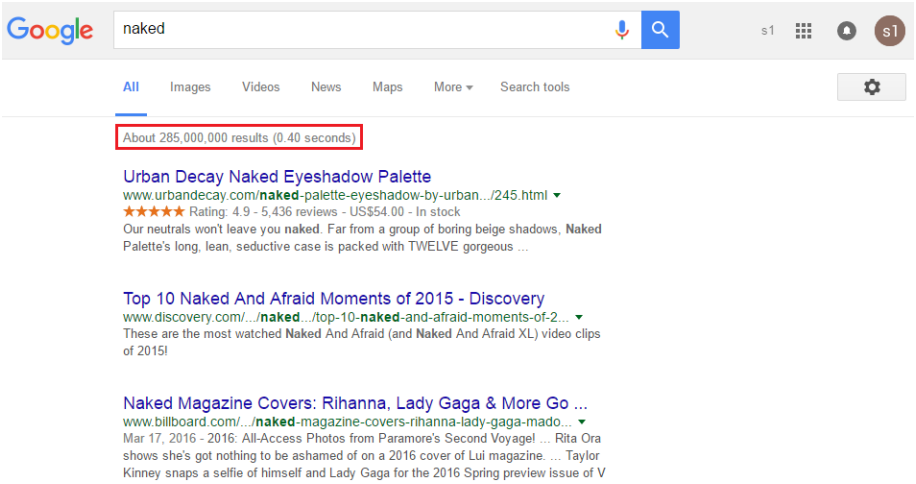
1. Go to *Endpoint Profiles* > *EMS Profiles*, and click *Add a new profile* button (the + button). The *Creating New Profile* pane is displayed.
2. In the *Profile Name* box, type a name for the profile.
3. On the *Web Filter* tab, enable *Web Filter*, and set the web filtering options.
4. On the *System Settings* tab, set the logging options.
5. Click *Save Profile* to save the profile.

Enabling/disabling Safe Search

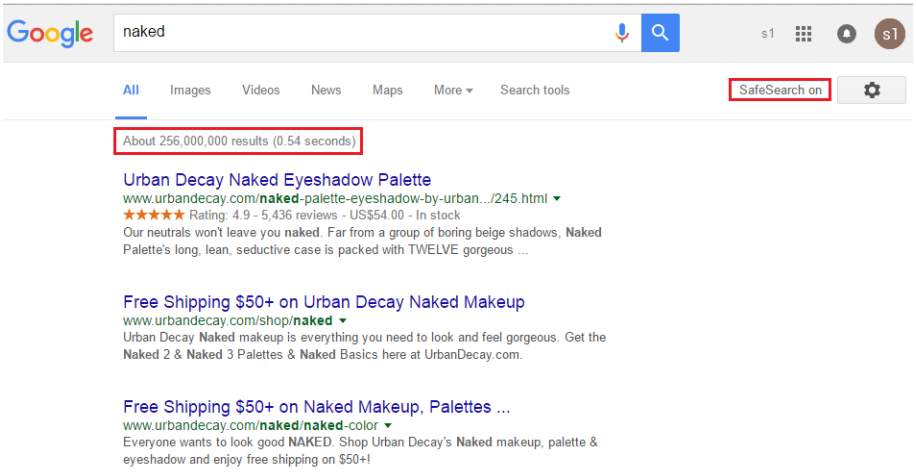
The search engine provides a Safe Search feature that blocks inappropriate or explicit images from search results. The Safe Search feature helps avoid most adult content. FortiClient EMS for Chromebooks supports Safe Search for most common search engines, such as Google, Yahoo, and Bing.

The profile in FortiClient EMS for Chromebooks controls the Safe Search feature.

Following are examples of search results with the Safe Search feature disabled and enabled. Notice the difference between the number of results. Here are the search results when the Safe Search feature is disabled, which has about 285,000,000 results:



Here are the search results when the Safe Search feature is enabled, which has about 256,000,000 results.



To enable or disable Safe Search:

1. In FortiClient EMS for Chromebooks, in the *Endpoint Profiles* area, click the *Default* profile or another profile.
2. On the *Web Filter* tab, enable or disable the *Enable Safe Search* option.

Viewing profiles

When you create endpoint profiles, they are listed under *Endpoint Profiles* in the left pane. You can view the endpoint profiles and their settings.

To view profiles:

1. Go to *Endpoint Profiles*, and click *EMS Profiles*. The list of profiles is displayed in the left pane.
2. Click a profile name. The settings are displayed in the content pane.

Assigning profiles to Google Chromebooks

After creating the profile, you can assign the profile to Google domains. When you assign the profile to domains, the profile settings are automatically pushed to the Chromebooks in the domain.

To assign profiles:

1. Go to *Google Domains*.
2. Right-click a domain, select *Assign Profile*, and then the profile. The profile is assigned.
3. Hover the mouse over the name of the domain to view the name of the assigned profile.

Managing profiles

You can manage profiles from the *Endpoint Profiles* pane.

Editing profiles

When you edit a profile that is assigned to domains, the changes are automatically pushed to the Chromebooks when you save the profile.

To edit profiles:

1. Go to *Endpoint Profiles*, and select a profile. The profile settings are displayed in the content pane.
2. Edit the settings. For a description of the options on the tabs, see Profile references on page 51.
3. Click *Save Profile*. If the profile is assigned to domains, the changes are pushed to the domains.

Cloning profiles

To clone profiles:

1. Go to *Endpoint Profiles*.
2. Select a profile, and click the *Clone* button. The cloned profile is displayed in the content pane.
3. In the *Profile Name* box, type a name for the profile.
4. Configure the settings on the tabs. For a description of the options, see Profile references on page 51.
5. Click *Save Profile* to save the profile.

Deleting profiles

You cannot delete the default profile.

To delete profiles:

1. Go to *Endpoint Profiles*.
2. Select a profile, and click the *Delete* button. A popup menu is displayed.
3. Click *Delete*. The profile is deleted

Profile references

This section contains descriptions of the tabs and options used to configure profiles.

Web Filter

You must enable *FortiProxy* on the *System Settings* tab to use the *Web Filter* options.

Configuration		Description
Web Filter		Enable or disable web filtering.
General		
	Log All URLs	Enable to log all URLs.
	Log User Initiated Traffic	Enable to log user initiated traffic.
	Enable Safe Search	Enable safe search.
Site Categories		
	Adult/Mature Content	Select one of the following: • Block • Warn • Allow • Monitor See the FortiGuard web site for descriptions of the available categories and subcategories.
	Bandwidth Consuming	Select one of the following: • Block • Warn • Allow • Monitor See the FortiGuard web site for descriptions of the available categories and subcategories.

Configuration		Description
	General Interest-Business	Select one of the following: • Block • Warn • Allow • Monitor See the FortiGuard web site for descriptions of the available categories and subcategories.
	General Interest-Personal	Select one of the following: • Block • Warn • Allow • Monitor See the FortiGuard web site for descriptions of the available categories and subcategories.
	Potentially Liable	Select one of the following: • Block • Warn • Allow • Monitor See the FortiGuard web site for descriptions of the available categories and subcategories.
	Security Risk	Select one of the following: • Block • Warn • Allow • Monitor See the FortiGuard web site for descriptions of the available categories and subcategories.
	Unrated	Select one of the following: • Block • Warn • Allow • Monitor See the FortiGuard web site for descriptions of the available categories and subcategories.
Exclusion List		

Configuration	Description
Action	Select one of the following actions: • Allow • Block • Monitor
URL	Enter specific URLs to allow, block, or monitor.
Type	Select one of the following types: • Simple • Wildcard • Regular Expression Wildcard characters and Perl Compatible Regular Expressions (PCRE) can be used.

System Settings

Configuration		Description
Log		Specify the log settings for FortiClient.
Level		Click Advanced, and select one of the following: • Disabled • Emergency • Alert • Critical • Error • Warning • Notice • Information • Debug
Upload Logs to FortiAnalyzer/FortiManager		Turn on to upload FortiClient logs to the FortiAnalyzer or FortiManager device at the specified address or host-name.
	IP Address/Host-name	Enter the IP address. When connecting to FortiAnalyzer 5.6+, use the format *https://FAZ-IP:port/logging*. Otherwise, use the format *https://FAZ-IP/jsonrpc/fazapi/logs*.
	Upload Schedule (minutes)	Configure the upload schedule in minutes.
	Log Retention (days)	Configure the number of days to retain logs.

Configuration	Description
Compress Logs	Enable to compress logs.

User Management

This section describes the default user accounts and permissions for FortiClient EMS for Chromebooks. It also describes how to change the administrator password and how to configure Windows users.

Default user account and permissions

The default user named *admin* has complete access to all FortiClient EMS for Chromebooks permissions, including modification, user permissions, approval, discovery, and deployment.

Viewing users

You can view the default user named *admin* as well as all of the users that you have added to FortiClient EMS for Chromebooks.

To view users:

1. Go to *View* > *User Management*.
2. Click the *Administration* tab.
   The following information is displayed:

+Add	Add a new user.
Name	Name of the user.
Access	Type of user access.
Type	Type of user.

Configuring User Management

Changing the admin password

By default, the password is blank for the user account named *admin*. You should add a password to increase security.

To change the admin password:

1. Go to *View* > *User Management*.
2. Select the *Admin* account.
3. Click *Change Password* from the toolbar. Change your password.
4. Click *Save*.

Configuring Windows user accounts

You can configure Windows users to have no access to FortiClient EMS for Chromebooks, or you can configure Windows users to have administrator access to FortiClient EMS for Chromebooks.

The list of Windows users is derived from the server on which FortiClient EMS for Chromebooks is installed. If you want to add more Windows users, you must add them to the server.

To configure Windows users:

1. Go to *View* > *User Management*.
2. Click the *+Add* button from the toolbar.
3. Expand the *Add User* dropdown list.
4. Select the Windows user.
5. Perform one of the following actions:
   a. Select the specific domain access for the user. For a description of the permissions, see Default user account and permissions on page 55.
   b. Configure the permissions.
6. Click *Save*.

Configuring Global Settings

To configure Global Settings:

1. Go to *View* > *User Management*.
2. Click *Global Settings*.
3. Set the following option:

Inactivity Timeout	Specify how long to keep inactive users logged into FortiClient EMS for Chromebooks. When the time expires, the user is automatically logged out of FortiClient EMS for Chromebooks. Type 0 to keep inactive users logged into FortiClient EMS for Chromebooks indefinitely.

4. Click *Save*.

User Management reference

This section contains descriptions of the fields used to configure user management.

Windows users

Following is a description of the fields on the *View* > *User Management* > *Add* > *User*.

Option		Description
Add User		Select the user for whom you want to configure permissions for FortiClient EMS for Chromebooks.
Super Administrator permissions		Enable the Super Administrator feature to give the new Windows user Super Administrator permissions.
Comments		Enter optional comments/information for the Windows user.
Domain Access		Select or add domain access for the Windows user and configure their permissions. If you choose one or more domains in the domain access field, you will need to select specific permissions.
Permissions		Use the settings to configure permissions to FortiClient EMS for Chromebooks for the selected Windows user.
General		
	Create / Delete Filters	Select to allow the Windows user to create and delete filters. Clear to disable this permission.
Policies		
	Assign / Unassign Policy /	Select to allow the Windows user to assign to endpoints and unassign profiles from domains as well as manage custom groups. Clear to disable this permission.
	Create / Delete / Edit / Rename Policy	Select to allow the Windows user to create, delete, edit, and rename profiles. Clear to disable this permission.

View Menu

This section describes the options in the *View* menu.

License upgrades or renewals

Contact Fortinet Support to upgrade or renew your FortiClient EMS for Chromebooks license. After you have the license file, you can add it to FortiClient EMS for Chromebooks.

To upgrade or renew the FortiClient EMS for Chromebooks license:

1. Go to *View* > *Upgrade License*. The *Add FortiClient EMS License* pane is displayed.
2. Click *Browse*, and locate the license key file.
3. Click *Upload File*.

Database management

You can back up and restore the FortiClient EMS for Chromebooks database.

Backing up the database

To back up the database:

1. Go to *View* > *Database Management*. The *Database Backup/Restore* pane is displayed.
2. On the *Backup* tab, set the following options:

Password	Type a password for backing up and restoring the database.
Confirm Password	Retype the password to confirm the password.

3. Click *Backup Database*.
   The database is backed up.

Restoring the database

To restore the database:

1. Go to *View* > *Database Management*. The *Database Backup/Restore* pane is displayed.
2. On the *Restore* tab, click *Browse*.
3. Locate the database backup file, and click *Open*.
4. In the *Password* box, type the password used to back up the database.

5. Click *Restore Database*.
   When the database is restored, a message appears. The message instructs you to wait for the restored database to reload.
6. Wait for the restored database to be reloaded.

Logs

You can view the log messages generated by FortiClient EMS for Chromebooks and download raw logs.

Viewing logs

To view log messages:

1. Go to *View* > *View Logs*. The *Logs* pane is displayed.
2. Click the *Filter* icon in each column heading to apply filters.
3. Click *Clear Filters* to remove the filters.

Downloading raw logs

You can download the raw logs generated by FortiClient EMS for Chromebooks.

To download raw logs:

1. Go to *View* > *View Logs*. The *Logs* pane is displayed.
2. Click *Raw Logs*.
3. Click the calendar icon in the *Start Date* and *End Date* boxes to select a start date and end date for the logs that you want to download.
4. In the *Levels* dropdown list, select one or more levels of logs to include.
5. In the *Sources* dropdown list, select one or more sources to include.
6. In the *Message* box, type the log message or messages to include. Leave blank to include all log messages.
   If you want to exclude the log message, enable the *NOT* option.
7. Click the *Calculate Size* button to view the size of the download.
8. Click *Download*.
   A zip of the raw logs is downloaded to your computer.

Settings

This section describes FortiClient EMS for Chromebooks settings.

Configuring Server Settings

FortiClient EMS for Chromebooks installs with a default IP address and port configured. You can change the IP address and port, and configure other server settings for FortiClient EMS for Chromebooks.

To configure Server Settings:

1. Go to *View* > *Settings*.
2. Select *Server Settings*, and configure the following options:

Remote Administration/HTTPS Access		Specify settings for remote administration access to FortiClient EMS for Chromebooks. Turn remote HTTPS access to FortiClient EMS for Chromebooks console on and off. When enabled, type a host name in the *Custom Host Name* box to let administrators use a browser and HTTPS to log into the FortiClient EMS for Chromebooks console. When disabled, administrators can only log into FortiClient EMS for Chromebooks console on the server.
	Pre-defined Host Name	Displays the pre-defined host name. The name cannot be changed.
	Custom Host Name	Available when *HTTPS Access* is turned on. Displays the pre-defined host name of the server on which FortiClient EMS for Chromebooks is installed. You can customize the host name. When you change the host name, the web server restarts.
SSL Certificate		Displays the SSL certificate currently imported. If you have not imported a SSL certificate, a *No SSL certificate imported* message is displayed.
New SSL Certificate File		Upload a new SSL certificate.
New SSL Private Key		Upload a new SSL private key.
User Inactivity Timeout		Configure the user inactivity timeout in hours.

3. Click *Save*.

Configuring Log Settings

You can specify what level of log messages to capture in the logs for FortiClient EMS for Chromebooks. You can also specify when to automatically delete logs and alerts.

To configure Log Settings:

1. Go to *View* > *Settings*.
2. Under *Log Settings*, configure the following options:

Log Level	Select the level of messages to include in FortiClient EMS for Chromebooks logs. For example, if you select *Info*, all log messages from *Info* to *Emergency* are added to the FortiClient EMS for Chromebooks logs.
Auto Remove Logs	Type the number of days that you want to store logs. For example, if you type 30, logs will be stored for 30 days. Any logs older than 30 days are automatically deleted.
Remove All Logs	Click to immediately delete all FortiClient EMS for Chromebooks logs.
Auto Remove Web Filter Logs	Type the number of days that you want to keep violations. For example, if you type 30, violations will be kept for 30 days. Any violations older than 30 days are automatically deleted. The default is seven days.

3. Click *Save*.

Configuring the pre-login banner

When you enable the pre-login banner, a message will appear prior to a user logging into EMS.

To enable and configure a pre-login banner:

1. Go to *View* > *Settings*.
2. Under *Pre-Login Banner*, enable *Enable Pre-login Banner*.
3. In the *Banner Message* box, type your message.
4. Click *Save*.

Configuring EMS for Chromebook

To configure Settings:

1. Go to *View* > *Settings*.
2. Click *EMS for Chromebook*, and configure the following options:

SSL Certificate	Displays the SSL certificate currently imported. If you have already uploaded a SSL certificate a *Replace* button is displayed.
New SSL Certificate File	Browse and upload a new SSL certificate file. See Adding SSL certificates to FortiClient EMS for Chromebooks on page 62.
New SSL Password	Configure a new SSL password.
Listen on Port	Displays the default port for the FortiClient EMS for Chromebooks server. You can change the port by typing a new port number. FortiClient will connect to EMS by using the specified port number.
Profile Update Interval	Specify the profile update interval (in seconds).

Service Account ID	Displays the service account ID currently in use.
Reset	In the event your service account is broken, you can revert back to the default service account by clicking the *Reset* button. This restores the default service account. You will need to *Save* the settings for the change to take effect.
New Service Account ID	Enter a new service account ID.
New Service Account Private Key	Enter a new service account private key.

3. Click *Save*.

Adding SSL certificates to FortiClient EMS for Chromebooks

You must add an SSL certificate to FortiClient EMS for Chromebooks to allow HTTPS connections with the Google Admin console.

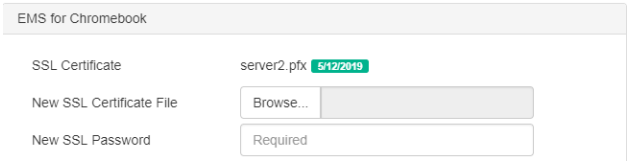
If you are using a public SSL certificate, add the certificate to FortiClient EMS for Chromebooks. You do not need to add the certificate to the Google Admin console.

If you are not using a public SSL certificate, you must add the SSL certificate to FortiClient EMS for Chromebooks, and you must add the root certificate to the Google Admin console. See Adding root certificates on page 27.

To add or replace SSL certificates:

1. In FortiClient EMS for Chromebooks, go to *View >Settings*.
2. Click the *EMS for Chromebook* tab.
3. Beside *New SSL Certificate File*, click *Browse*, and locate the certificate file (<name>.pfx).
4. In the *New SSL Password* box, type the password.
5. Click *Test*.
6. Click *Save*.

If the SSL certificate is expiring in less than three months, the expiry date label will be yellow; if it has expired, the label will be red. Otherwise, it is green.



Configuring mail alert settings

You can set up an SMTP server to enable alerts for EMS events. When an alert is triggered, an email notification will be sent.

To configure email alerts and an SMTP server:

1. Go to *View* > *Settings* > *E-mail Alerts*.
2. Enable *Send E-mail Alerts for the Following EMS Events*, and set the following options:

Notify when new EMS versions are available for deployment		New EMS versions are available.
	Remind me everyday for 2 weeks	Enable to remind you when new EMS versions are available everyday for two weeks.
Notify when EMS license is expiring or expired		Expiring or expired EMS license.

3. Click *Save*.
   If you have not already set up an SMTP server, the GUI will automatically prompt you to configure the *SMTP Server Settings* information. See Configuring SMTP server settings on page 63.

Configuring SMTP server settings

You can set up an SMTP server to enable alerts for EMS events. When an alert is triggered, an email notification will be sent.

To configure SMTP server settings:

1. Go to *View* > *Settings* > *E-mail Alerts*, and enable *Send E-Mail Alerts for the Following EMS Events*.
   The *SMTP Server Settings* option is displayed under *Alerts*.
2. Click *SMTP Server Settings*, and set the following options:

SMTP Server		Enter the SMTP server.
Port		Enter the port number.
Security		Select *None*, *STARTTLS*, or *SMTPS* for the security type, or select the *Auto Detect* button to automatically select the security type. If *STARTTLS* or *SMTPS* is selected, the *Username* and *Password* boxes become available.
	Username	Enter the username.
	Password	Enter the password.
From Address		Enter the email address to send the alerts from.
Reply To		Enter the email address to send replies to.
Subject		Subject of the sent e-mail alert.

Recipients	Enter email address(es) to send alerts to. Click the + button to add more email addresses.
Test Email Settings	Click the button to test the configured email settings.

3. Click *Save*.

Creating a support package

To create a support package:

1. Go to *Help* > *Create Support Package*. The *Create Support Package* dialog box is displayed.
2. In the *Password* box, type your administrative password.
3. In the *Confirm Password* box, type your password again.
4. Click *Create Support Package*.